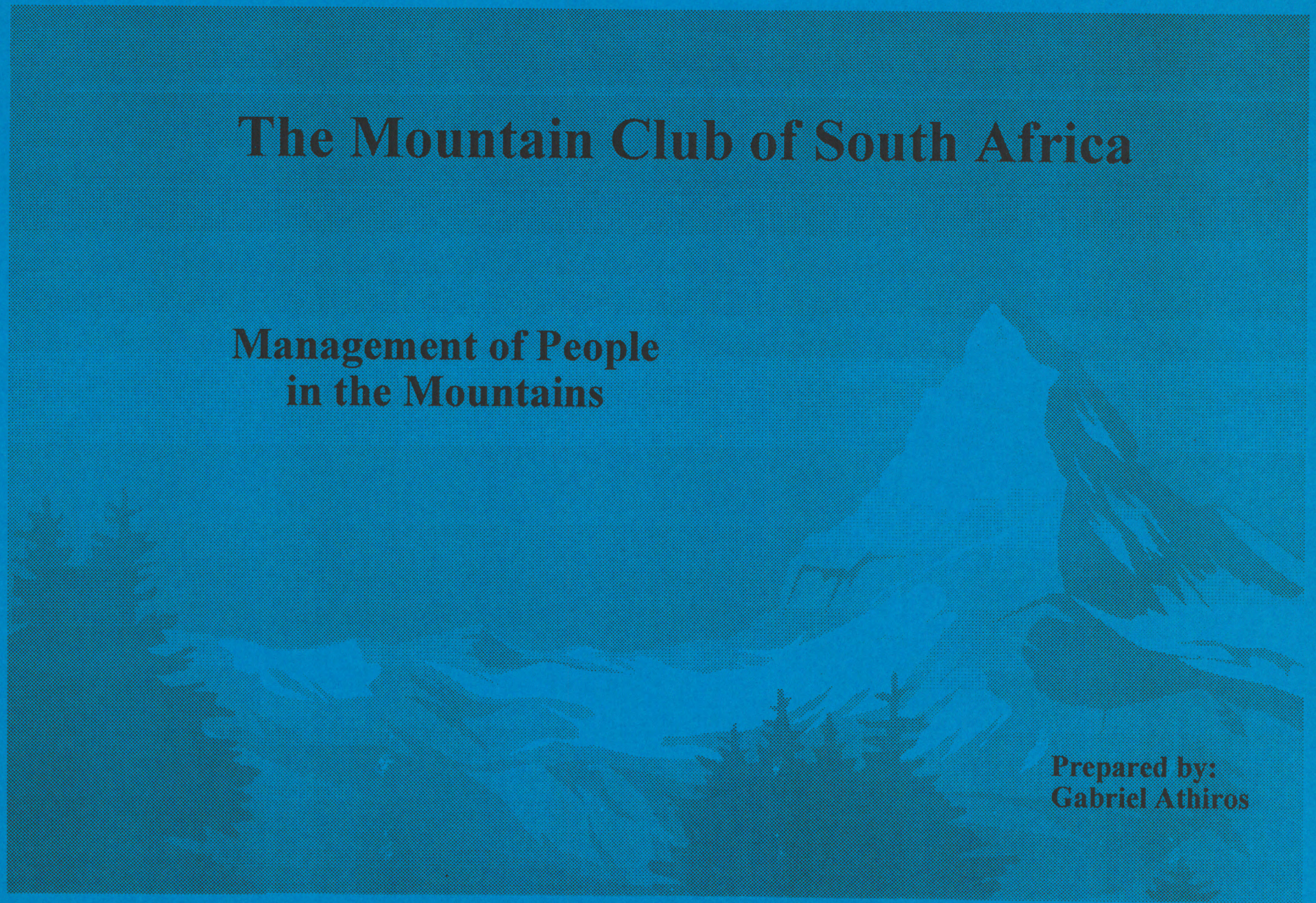
The Mountain Club of South Africa

Management of People in the Mountains



Prepared by:
Gabriel Athiros

The Mountain Club of South Africa

LEADERSHIP

Not an exact Science

The Mountain Club of South Africa

LEADERSHIP

Cannot be taught
It can only be learnt

Task #1

What does a Leader need to DO or BE in order to Lead?

List the ten most important points on the paper provided

Approaches to Leadership

Tannenbaum Continuum

Lead by Example

McGregor's X & Y Theories

Lead from behind

Coaching

Approaches to Leadership

- Qualities Approach
- Situational Approach
- Functional Approach

Qualities of a Leader

- Integrity
- Decisiveness
- Justice
- Endurance
- Loyalty
- Energy
- Fitness
- Perseverance
- Judgement

Knowledge
Initiative
Enthusiasm
Unselfishness
Honesty
Self Control
Dependability
Cheerfulness
Commonsense

Courage
Tact
Bearing
Fortitude
Humour
Tenacity
Faith
Willpower
Efficiency

Mc Clellend's Three Needs

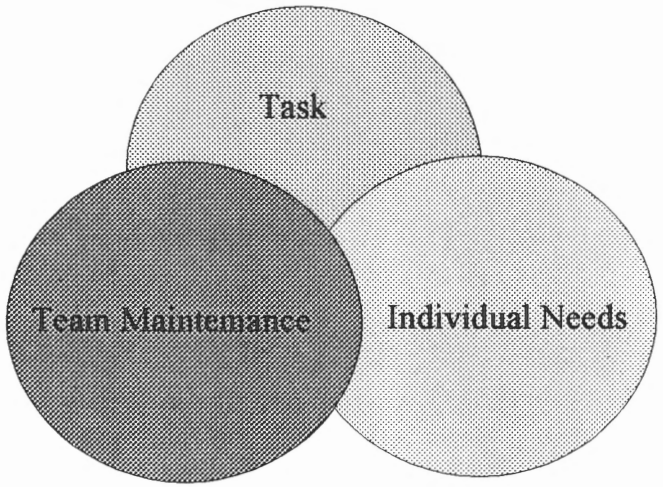
Why People Join Groups

- **Need for Achievement - *Nach***
- **Need for Affiliation - *Naff***
- **Need for Power - *NPow***

The Mountain Club of South Africa

Functional Leadership

- Task
- Individual Needs
- Group Maintenance



Conservation

One definition of conservation is that it is the preservation, especially of the natural environment.

A conservation area is an area containing a noteworthy environment and is specially protected by law against undesirable changes.

Other definitions include preservation, protection, safekeeping, maintenance, upkeep, management, safeguarding, husbandry, environmentalism, greenness.

The preservation of an area can include the safeguarding of flora, fauna, archaeological sites, beauty spots and areas of ecological sensitivity.

The pressure on mountains will increase with encroaching urbanisation and man's need for recreational areas. This is especially true of areas such as Table Mountain because of the close proximity to the urban sprawl.

Several reports have been submitted, that of Moll and Campbell 1976 being a comprehensive one. The MCSA has been involved in the procedures which have led to Table Mountain being declared a National Monument, even though in doing so we lost some of our privileges (access to Orange Kloof). Other sections of the Club are equally involved in the preservation of the mountains in their areas.

Geography and geology

The Cape floral kingdom is both the richest and the smallest of the floral kingdoms. Its area is smaller than that of the British Isles but its floral diversity greater.

Evidence of early man and dinosaur footprints have also been found in the area.

The Western Cape is situated between 32 and 38 degrees latitude and 18 and 24 degrees longitude. It is a winter rainfall area with a Mediterranean climate. Inland the temperatures can be very harsh but at the coast the weather is milder. The south east wind prevails during summer, but it is an extremely cold wind right off the polar icecaps and can cause significant drops in temperature, and at times bring rain. The winter wind

is the northwester which brings rain, sometimes for days on end. The Bergwind can cause heatwave conditions in mid-winter...it blows off the landmass to the north.

The Peninsula itself was once an island separated from the mainland by the flat, sandy, low-lying Cape Flats. It was probably an island in the early Pleistocene period, before the recent ice ages some 50 000 years ago and will probably become one once again. This would require a rise in sea level of less than 30 metres.

The Cape Peninsula is a fairly well defined plateau of resistant sandstone, resting on a bed of softer rocks.

The three main formations that make up the Cape Peninsula are

1. The Table Mountain Series (TMS) - hard sandstone.
2. Granite - a volcanic mixture of quartz, feldspar and mica.
3. Malmesbury series - silt and mud slates.

TMS forms the higher ground on the Peninsula. The soil is strongly acidic (and it is also responsible for the brown water). The TMS sediments were laid down 300 million years ago, at one time reaching 5 000 feet but most have weathered to less than this. 300 million years is the only certain point in the Peninsula's geological time scale. During an early ice age Tillite (ridged pebbles embedded in a silty sand stone) was brought south in an ice sheet. These are now found only at Maclear's beacon. The accurate dating occurs because it was followed directly by beds carrying marine fossils known to be a little less than 300 million years old.

In the southern Peninsula TMS lies below sea level and so constitutes the bed rock of the region.

After being laid down in layers, the TMS sand stone was bent and crumpled by the earth's movements, vertically split by contraction, eroded and weathered . Eventually the buttresses, horizontal ledges and damp kloofs which characterise the Peninsula mountains today, were formed.

Some of the areas of great concern to conservationists are:

1. Uncontrolled fires. Especially in the late summer /early autumn vast areas can be devastated by the careless use of fires. Fires have been banned on Table Mountain. Side effects of fire are the loss of topsoil when the plants are destroyed and their roots no longer bind the soil. This leads to erosion. Loss of plant and animal species can also occur if the burns are too frequent to allow for regeneration. Birds and reptiles lose their food supply when plants , seeds and smaller animals succumb to the flames. Mudslides can occur if heavy rain follows a burn before the veld has a chance to recover and unsightly dongas can be formed, and streams can silt up. The seeds of some aliens such as hakea and rooikrans and stimulated by fire and plantations of their seedlings spring up overnight.

(See separate page on fire in the fynbos - it is not entirely detrimental to the fynbos.)

2. Soil erosion. There is a proliferation of paths on the mountain. Hikers are urged not to take short cuts but to stick to the established paths, usually zigzag. In the upper Kirstenbosch area the paths are being well maintained and are aesthetically pleasing.

3. Invasion of aliens. Several conservation bodies including the Mountain Club are doing an excellent job of eliminating aliens such as Hakea, pines and wattle. However they are not the only invaders and mountaineers are urged wherever possible to pull up these and also invaders such as bugweed...(Hakea and brambles necessitate wearing gloves and long sleeves but fortunately can be dealt with by biological control to some extent.)

An animal invader is the Himalayan tahr, and older mountaineers will remember the days when these graceful animals leapt from ledge to ledge with ease, the envy of the rock-

climbing fraternity. Baboons were also a problem and still are in some areas, but they are not entirely alien.

4. Water...Kader Asmal has it on good authority that if we were to remove the alien vegetation South Africa's water needs would be met without the building of any new dams.

Remember not to relieve yourself in or near a water course and do not pollute the water in any way. Likewise when drinking from streams ensure that they have not been polluted higher up. (This applies especially in places like the Drakensberg, where cattle may have been grazing higher up.)

The Mountain Club is involved in the Working for Water project.

5. Litter is always a concern. Always bring down your own cans, tins, bottles etc. and if possible any that others have left. Carry a plastic bag for this purpose but draw the line at tissues and toilet paper . A handkerchief does not fall out of a pocket as easily as tissues do. Remember to dig a hole and bury faeces - not just cover them with a stone. In country areas baboons turn over rocks when searching for insects so just covering the poo and paper with a stone is not acceptable. Remember too when that snow melts!

6. A relatively new threat in natural areas are **trail bikes** and on the dunes **4X4's.**

7. **Barkstripping of trees** in areas such as Cecilia forest, Newlands forest and Kirstenbosch is a currently of concern. The trees most sought after are Rapanea melanophloea (Cape Beech, Boekenhout), Curtisia dentata (Assegai), and Ilex mitis (Cape holly). Any incidence noted should be reported to the relevant foresters.

Useful Phone Numbers

MCSA	465-3412	Fax 461-8456
Botanical Society	61-5468	61-7146
Working for Water	797-8289 (Sandra Steytler- home)	
Newlands forest	689-3959 (Liesl Terblanche/ Andre du Plessis)	
	23-3210/11 (after hours)	
Kirstenbosch forest	762-1166 / 082-569 2812 (Philip le Roux)	
Cecilia forest (Tokai)	72-7471 or P. le Roux	

Trig survey (for maps).....685-4070

A Mountain Ethic

Access to nature is a privilege and implies a responsibility to the conservation of flora, fauna and scenic beauty - the heritage of future generations.

PLEASE RESPECT

THE MOUNTAIN

BY STAYING ON THE FOOTPATHS, TAKING YOUR LITTER HOME, AND NOT COMMITTING ACTS OF VANDALISM, POLLUTING WATER OR LIGHTING FIRES;

THE VEGETATION,

by not trampling it, collecting plants, flowers or seeds or mutilating trees;

THE WILDLIFE

by not killing, collecting or disturbing it in any way;

OTHER VISITORS,

by not rolling rocks, throwing stones, plying radios or tape-recorders, shouting or being ill-mannered.

CHERISH THE MOUNTAIN

and help to conserve nature so that it may also be enjoyed by future generations.

REMEMBER, ONCE DESTROYED, NATURE CAN NEVER BE RESTORED.

Conservation

Fire

As land-owners the MCSA has an obligation to adjoining land- owners to protect its properties from the ravages of fire.
However from a conservation point of view, fire is not totally detrimental. The Cape flora requires fire to prevent it becoming senescent. The big problem is that the optimum period between fires has not as yet been determined.
Fires in the past have most often occurred as the result of lightning; the lightning season being summer and autumn, occasionally spring. The greatest chance of lightning causing a widespread fire is in the autumn when the country side is dry.
Before natural vegetation patterns were disrupted by agriculture, a fire in the past could have swept through from the Cederberg or Port Elizabeth. It would eventually have been halted by rain, the wind direction reversing or by meeting a recent burn. Typically a whole mountain chain could have been burnt out.
Conversely, it is possible that some fires would have been confined to a relatively small area because of the onset of heavy rain.
Fires could also have started at any time of the year by falling rocks. Although rocks may generate sparks at any time when they fall, they would be most likely to be the cause of a fire in the dry season...summer or autumn.
All things being considered it would appear that in pre- human times the fynbos adapted itself to fires in the dry season. Not only the plants, but other life forms (mammals and insects) also adapted to this cycle. All are likely to be adversely affected by an unnatural change in fire patterns.

Brief notes on Proteas.

Proteas bloom from 3-5 to about 20 years after germination, depending on the species. The rate of maturation is affected by factors such as available moisture, temperature range, soil composition and density of plant population.
The plants flower increasing in abundance for from 15 - 50 years. They may then produce fewer flowers, and become moribund with few .flowers and no seed reserves (30 - 70 years.

In many Proteas only a few seeds are produced per head. Many seeds are eaten by insects or rodents in year old seed. Much of the viable seed is thus in the current crop. (This has tremendous implications in the cut flower industry.)
Protea seeds on the ground germinate when a drop in night time temperature is accompanied by rain.; they seldom germinate in hot wet weather.(Autumn)
Dense populations of proteas produce fewer seeds per plant (branching is inhibited).
Flowering can be delayed by up to 30 years and even then flowering may be sparse.
Under extreme over-crowding the seed population can be too low to provide for regeneration after a fire.

After fire the individuals of most species are destroyed. A few species resprout from persistent stumps.
After the fire, the flowerheads on the dead plants open up and release their seeds. They lie on the soil until the right conditions for germination occur. Many are eaten by rodents who are unaffected by fires so they thin the population naturally.
Small populations are further depleted as they often produce less seeds (lack of pollinators?) There is also possibly a rodent population in excess of that which can be supported by the seeds. Should the seed be released by a fire, rodents from far come to feast and few seeds survive to germinate.

Post fire recovery

A mature stand will release enough seeds for survival. However there is a problem if too many flowerheads have been cut, or if the plants were very dense or very sparse.
A fire in a young stand before its first bloom can wipe out the species in that area. On the other hand a fire in a very old stand can also prove fatal as there may not be enough viable seed to maintain the species.
A fire in April could be beneficial as soon after the burn the rains should start and the viable seeds will germinate. A fire in spring can be disastrous as the seeds will be available to predators for a long time and few are likely to survive.

Fire Management.

Due to the great population density of the fynbos, it is difficult to monitor the effect of fire on each species. If one were to use the Proteas as a yardstick and assume that if they are coping the rest are also coping .

Possible Fire Management Strategies.

Whatever policy one adopts at this stage it is felt that it should not be regular and repetitive. Intervals between fires in any area should preferably vary, and the season should be different each time so that survival of **ALL** species can be ensured.

Access to

1. Maanskynskop
2. ~~Ba~~koue Bokkeveld Sreentop
3. Wolfberg Cracks and Arch
4. Malmesbury Mountain (Paardeberg)

Access

Access is a privilege and not a right. Club members enjoy access to many areas through the relationships established over many years...safeguard them jealously. The wilderness experience can only remain with us while we respect the rights of others and maintain the good relationships that have been built up with land owners, farmers and the authorities.

For information on access contact

MCSA office, Monday to Friday 10am - 2pm. Be courteous and don't phone at 5 to 2 and expect to get detailed information!

Convenor of the Access and Land Acquisitions Committee, Peter Pearson at 24 7045 (w) He would also like feedback, and advice should anyone know of suitable properties being offered for sale.

It is also a good idea to keep copies of the MCSA newsletter as access arrangements and contact numbers are often published.

When venturing into the mountains establish that the necessary permission has been obtained.
Country trips may have to be planned weeks in advance..
At present these often change so if in doubt check with one of the above.

Remember where permits are issued to carry these and show them if required to do so.
Also it is always a good idea to keep your membership card accessible.

Should you unfortunately ever inadvertently wander onto someone's land without permission then apologise, ask for forgiveness and retreat after explaining politely that it was TOTALLY inadvertent.
Remember that you are not only endangering your own rights but also those of others.

Never exceed the numbers stated on a permit.

Farmer's land.

When phoning for permission to walk over or camp on a farmer's land, do so at a reasonable time. Most farmers keep early hours.
When booking ask if the farmer would like you to call at his homestead when entering his property. If so again remember to do so at a reasonable hour.
If you are not required to book in, establish beforehand where he would like you to park.
When booking give the farmer some idea about when you will be arriving.
It is always a welcome gesture to take a small gift to a farmer or his wife (Grapes may not be fallen on with whoops of joy by a wine farmer, but the latest newspapers or periodicals are usually welcome as are sweets and chocolates.)

On arriving at the farmers, if you are to check in, ask if he would like you to call on him when you leave.
Always travel slowly on farm roads particularly when driving through orchards and vineyards or past homesteads.
Gates should be left open if they were found open. If they were closed when you arrived, close them after you.
Take all your garbage home. Never leave plastic bags behind - livestock have died because of eating plastic bags, so remove any you may see even if they are not yours.

Fires.

These are not allowed in many areas...check first and heed the rules.
If they are permitted ensure that a safe place is selected for the fire and that it is completely extinguished afterwards. Sneaky little winds can cause tiny little sparks to burst into flame.
If use of firewood is permitted take care with what is selected and do not damage live trees.
Respect the farmers water source and do not wash or swim in his dams or rivers unless he has given permission. (In any event, always wash away from a dam or river using a small basin, or if necessary a billy.

The bottom line is make sure of all access requirements and maintain our privileges by not jeopardising them in any way even if it means postponing a trip till the necessary permission has been obtained.

MCSA
Advanced Mountain Leader Course
August 1998

Saturday 29

Module:	**Safety on Steep Ground**
Presented by:	Euan Waugh
Assisted by:	Morgan Behr
Meeting:	Boyes Drive directly below Muizenberg Peak, on the Cape Town side of the recently cleared alien vegetation.
Time start:	08h30
Time end:	15h00

Meeting:	Du Toitskloof Hut. Take N1 North to the Du Toitskloof Motel, double-back onto the R101 towards Cape Town. Look for a gate (on the left) at the top of a tar strip. This is reached before the heavy vehicle inspection facility or take the N1 North and cross the pass on the R101. Cross the Elands River at the N1 Tunnel exit (Worcester side). Pass the heavy vehicle inspection facility. Pass under a bridge and take the first opportunity to double back towards Cape Town (R101). Look for a gate (on the left) at the top of a tar strip. A parking area is reached by following the track to some trees. Please park in the designated area only and switch-off car alarms.
Time:	17h30 – 18h30 the gate will be locked after 18h30.
Braai	From 18h00 – 20h00

Sunday 30

Module:	**Clothing and Equipment**
Presented by:	Andrew Warren and Andrew Baxter
Time start:	08h00
Time end:	11h30

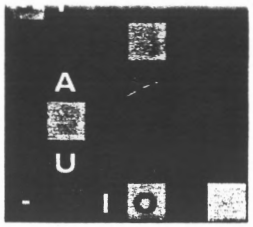
Module:	River Crossing
Presented by:	Euan Waugh
Assisted by:	Morgan Behr and Andrew Warren
Time start:	11h30
Time end:	15h00

Please bring camping equipment, tents, stoves etc. The hut accommodates 15 people. Also bring clothing / footwear for river crossing (wetsuits are a good idea), plenty of food and "refreshments" etc. Remember we hope to braai, weather permitting.

Any questions please phone Euan (021) 797-3386 or 083 309-1554.

See you there!

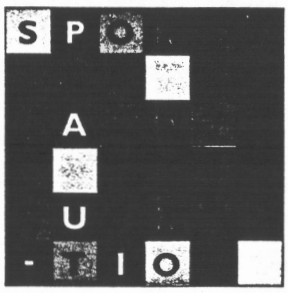
Euan



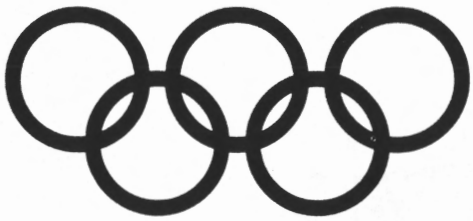
SPORT AND NUTRITION

Sport and Nutrition

Foreword by
Mgr le Prince de Merode,
President, IOC Medical Commission



All of us who are active in the Olympic movement, or in national sports federations, share a twin objective of assisting athletes who take part in the competitions for which we are responsible to maximise their performance, while at the same time protecting their overall health and welfare. Recently there has been emphasis on the role of correct nutrition, together with training and coaching in maximising sporting performance. This development seems to me very positive, hence I was delighted to be present recently in Lausanne, Switzerland, when twenty leading researchers in the field of Sports Nutrition assembled in a Consensus Conference to pool their findings. The consensus they reached represents the latest scientific thinking on nutrition and sports performance.



This booklet reflects the main conclusions of the Conference, and will be a useful point of reference for anyone involved in sporting activities.

The Consensus Conference was organised by Mars, Incorporated, the sole sponsor from the food industry of the 1992 Olympiad. We are grateful to Mars, Incorporated for this support.

A de Merode

Introduction

Sportsmen and women are becoming more and more interested in how their diet affects sports performance. It is now recognised that the right diet, combined with proper training and coaching, can significantly improve sports performance.

This booklet is based on the main conclusions of the International Scientific Consensus Conference on Foods, Nutrition and Sports Performance held in February 1991, in Lausanne, Switzerland (1).

The Consensus Conference brought together international experts on sports nutrition and members of the International Olympic Committee Medical Commission. Professor Clyde Williams of Loughborough University, England, was a co-chairman of the conference. His assistance in producing this booklet is gratefully acknowledged.

Contents

The importance of

exercise

Exercise and a good diet are both important for health. Scientists agree that regular exercise can:

- Delay deterioration due to age and inactivity
- Reduce the likelihood of overweight
- Improve heart, breathing and muscle functions

So, even if you don't want to become a serious athlete, regular exercise is important for general health. Today more and more people recognise this and are taking part in an ever-increasing variety of sports.

Depending on the sport you prefer you will need sprinting, endurance, strength and agility skills to a greater or lesser extent. These basic skills date back to our ancestors.

Our hunter-gathering forefathers needed endurance to roam great distances searching for food. They needed to be able to run swiftly over short distances to chase their prey, or if things went badly, to avoid being caught themselves! Strength and agility were also needed to help them build shelters and protect themselves from their enemies.

Today these same skills are still tested, but on the sports field. Over the years man has adapted and improved these skills, thanks to better technology and training techniques. Another important development is our increased knowledge of sports nutrition. Research now shows how sports performance can be improved by the foods we eat. Let's find out why this is so.

What is a healthy diet?

First we need to understand what a healthy diet is. Here are some basic rules (2). Nearly all the foods and drinks we consume contain varying quantities of different nutrients and provide us with energy. The main nutrients are carbohydrates, protein and fat.

Carbohydrates should provide at least 50% of our energy. They are also needed to make the brain function.

Carbohydrates are the sugars and starches found in grain and grain products (cereals, bread, rice and pasta), fruits, vegetables, milk and milk products and many processed foods and drinks.

Fats provide a concentrated source of food energy, help build our body tissues and contain the fat soluble vitamins - A, D, E and K. Saturated fats are found in red meats, whole eggs, whole milk and milk products; unsaturated fats are found in nuts and many vegetable oils. Fat is essential in the diet but experts recommend that fat should provide no more than 30-35% of our energy intake. That means we should eat no more than 33-39 grams of fat per 1000 calories of food intake.

FATS

Proteins are the body's building blocks needed for growth and repair of damaged cells.

Proteins

They are also needed for digestion and help produce anti-bodies to fight infection. Major sources of protein are meat, milk and milk products, fish, eggs and nuts. Approximately 10-15% of our energy intake should come from protein.

The energy value of nutrients is measured in kiloJoules or kilocalories. Kilocalories are often called Calories. One kilocalorie is worth just over four kiloJoules. The nutrient values are:

Carbohydrates (sugars and starches)	4	17
Protein	4	17
Fat	9	37

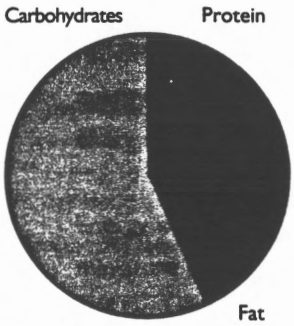
We also need a wide range of vitamins and minerals in the diet. They are needed in small quantities and a varied diet can provide our normal requirements of them without the need for supplements.

Water and fibre are also needed in the diet. Those doing heavy exercise need to drink extra water.

How much energy do we need?

People who take very little exercise need about 1500-2500 Calories per day; just sitting down, or even sleeping, uses up some energy. More active adults need around 2500-3000 Calories per day to maintain a normal weight. Men usually need more energy than women.

As we saw in the previous section, for a healthy diet this energy should come from nutrients in these proportions:



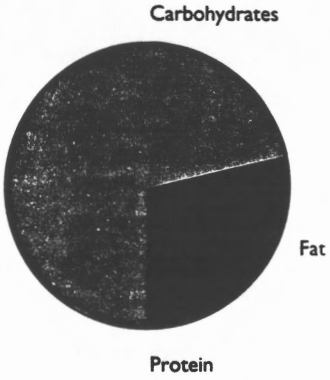
Fat	30-35%
Protein	10-15%
Carbohydrates	± 55%

Very active people need more energy. The more active you are the more energy you need. Endurance athletes use 5,000 or more Calories a day and cyclists in the Tour de France take in as much as 10,000 Calories each day!

Soccer	Skiing	Running	Bicycling
450 cal/hr	5 mph, 600 kcal/hr	9 mph, 900 kcal/hr 7 mph, 669 kcal/hr	5,5 mph, 250 kcal/hr

Examples of different activities and energy used (3)

Where should this extra energy come from? Scientific research shows it is more important to get this extra energy by increasing carbohydrate intake than by eating more fat or protein. Some athletes get as much as 60-70% of their energy from carbohydrates. We will explain why we nee this extra carbohydrate later on.

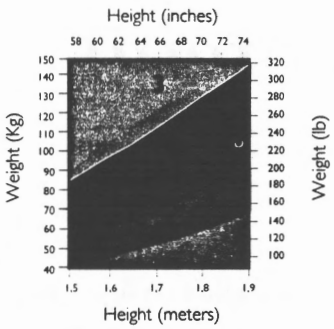


Carbohydrates	60-70%
Protein	10-15%
Fat	20-30%

Athletes need larger proportions of carbohydrate

Do you know how much energy you need? One way of finding out is to calculate at what Calorie intake your weight stays stable over a period of time given a consistent level of activity. If you take in more energy than you use up you will put on weight; you will loose weight if your energy use is greater than your energy intake.

You can check the appropriate weight for your height from the table below. Some athletes may weigh more than the recommended amount due to their greater muscle mass.



Line up your height and weight to see which band you are in.
Band 0 = o.k.
Band 1 = a little overweight.
Bands 2 + 3 = should loose weight (4)

Summary:

A healthy diet is one that provides the energy we need from the correct proportions of nutrients. We should have a wide variety of different foods and drinks to ensure we obtain all the vitamins and minerals we need.

Energy and Exercise

How the body stores energy

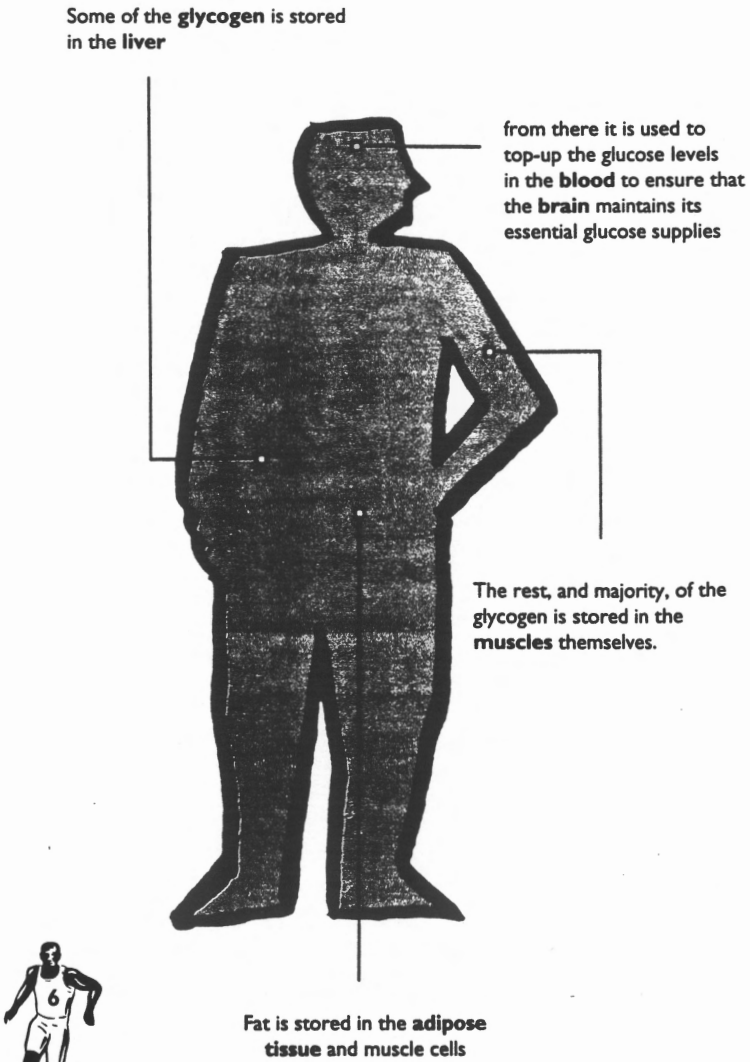
Our diets provide energy mainly from carbohydrates and fat. This is stored in the body until it is needed.

Carbohydrates, whether sugars or starches, are broken down in the body and stored as glycogen, that is, a large number of glucose molecules joined together. Some of the **glycogen** is stored in the **liver**; from there it is used to top-up the glucose levels in the **blood** to ensure that the **brain** maintains its essential glucose supplies. The rest, and majority, of the glycogen is stored in the **muscles** themselves.

Water is also stored with the glycogen; three grams of water for each gram of glycogen. Weight loss noticed after only one or two training sessions is a combination of the fuel burned up and the stored water lost as **sweat**.

Fat is stored in the **adipose tissue** and muscle cells. Adipose tissue cells are simply storage containers that expand when we increase our fat intake and contract when we fast. Fat molecules are broken down to release fatty acids and glycerol. These can then be carried by the blood to the muscles for use.

The body fat content of an average lean adult man is about 15% and for lean adult women about 25%. Elite endurance runners have much less body fat, but even so it is enough to provide their muscles with fuel for several days of low intensity exercise.



How the body uses this energy

When we run our muscles use energy at a rate directly proportional to running speed. If this energy is not replaced as rapidly as it is used the muscles cannot maintain their work rate and we have to slow down, or even stop.

During exercise the working muscles convert stored energy into kinetic energy and heat. This is rather like a combustion engine where chemical energy (fuel) is transformed into mechanical energy.

Energy is produced when muscle cells, acting like miniature power stations, burn up carbohydrate and fatty acids in the presence of oxygen to make a biochemical called **ATP**. ATP is the substance that actually makes muscles work. The process is called «**aerobic metabolism**» because oxygen is needed.

ATP can also be produced without oxygen, but in this case only carbohydrate and not fat is used. This process is called «**anaerobic metabolism**».

So how does the body choose between these different energy production processes? It depends on many different and variable factors.

During exercise the working muscles convert stored energy into kinetic energy and heat.

ATP is the substance that actually makes muscles work.

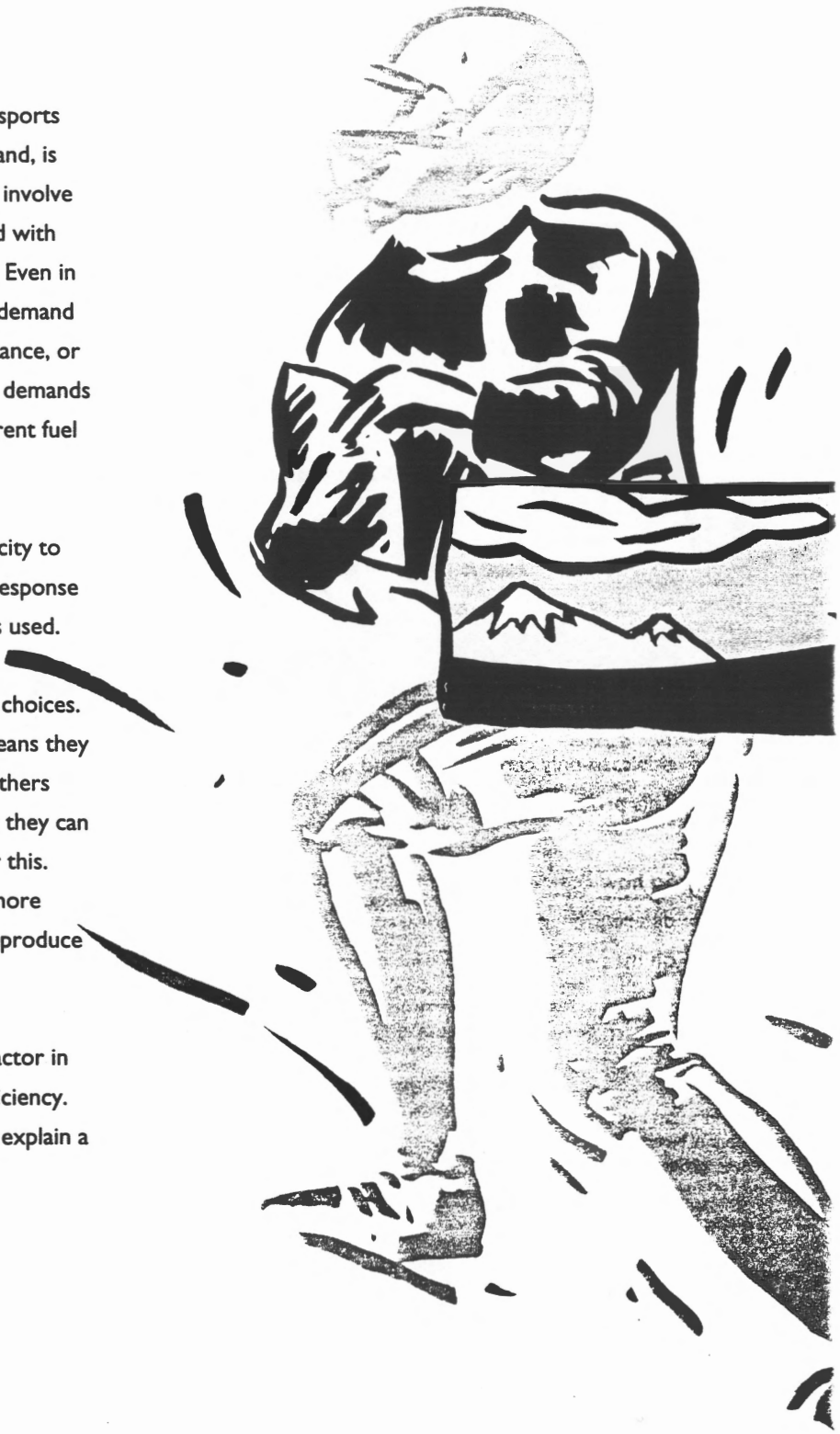
Factors influencing fuel choices

One factor is exercise intensity. In most sports exercise intensity, and hence energy demand, is variable. Games such as soccer or tennis involve brief periods of high intensity effort mixed with periods of rest or low intensity exercise. Even in sports such as running or cycling, energy demand will vary with changes in pace, wind resistance, or the topography of the course. As energy demands change, so will the body's use of the different fuel sources.

Individuals vary considerably in their capacity to perform exercise and in their metabolic response to exercise; this too will affect how fuel is used.

The working muscles also determine fuel choices. Some muscles work aerobically, which means they can have fat or carbohydrate as a fuel. Others work mainly anaerobically, at which point they can only use carbohydrate. Training can alter this. Training enables the muscles to take up more oxygen from the blood supply and hence produce more aerobic energy.

This use of oxygen by the body is a key factor in determining fuel use and performance efficiency. To understand why this is so we need to explain a concept sports experts call «VO_2 max».



VO_2 max explained

The harder we exercise the more we breathe to increase our oxygen uptake - this allows for more and more energy to be produced aerobically. But there is a limit to our capacity for oxygen uptake. Everyone has their own «maximum oxygen uptake» level, or «VO_2 max».

Sports scientists regard VO_2 max as an important reference point. A runner's actual oxygen uptake can be expressed as a percentage of his personal VO_2 max level. This figure is called $\%VO_2$ max and reflects how intense the exercise feels to the runner - how close he is to his personal limits.

Two people can be running at the same speed and using the same amount of oxygen, but they will have a different experience of the intensity of the exercise. The one whose $\%VO_2$ max level is the higher will be feeling the greater stress.

$\%VO_2$ max is a description of personal, or relative, exercise intensity. It should not be confused with objective measurements, such as speed or distance covered. We can use this method of describing relative exercise intensity to pinpoint some of the stages at which the body changes its methods of energy production.

Running at a speed that

requires 100% VO_2 max for

the sedentary individual (A)

may require less than 50%

VO_2 max for the distance

runner (B).

A will tire very quickly

whereas B is very comfortable

and can maintain his speed for

many hours.

Changing fuel sources

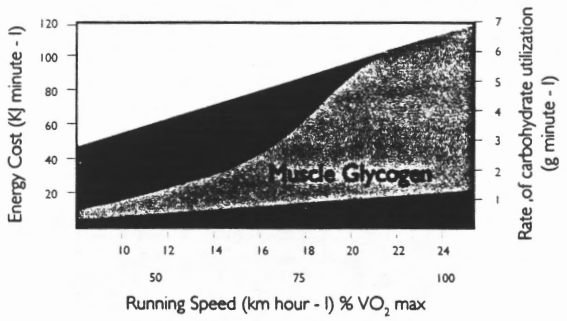
In low intensity exercise the body works aerobically. At less than 50% VO_2 max, fat is the predominant fuel, accounting for more than half of total energy production.

Put another way, the energy in fat cannot be released rapidly enough to allow a person to exercise more intensely than about 50% VO_2 max.

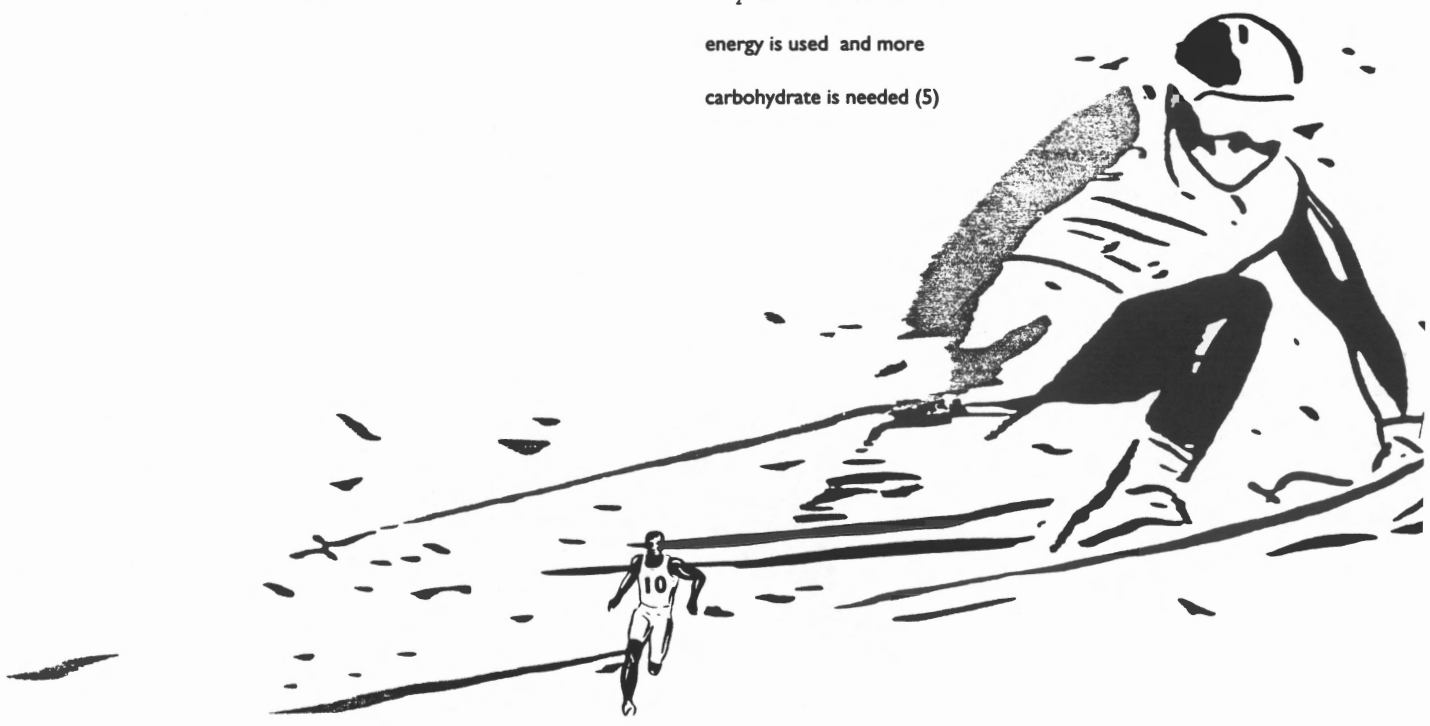
At about 60-65% VO_2 max, the contributions of fat and carbohydrate are roughly equal. Above this level of exercise carbohydrate is the major fuel and maximum availability is essential.

When an individual increases his running speed, or tackles a steep hill without slowing down, the extra energy needed may not be completely covered by aerobic metabolism. Extra energy is then provided anaerobically, which allows for a more rapid breakdown of carbohydrate without needing additional oxygen. In very short intense exercise, for example the 100m sprint, nearly all the energy is supplied anaerobically.

Anaerobic metabolism uses up carbohydrate very quickly and also produces lactic acid. Lactic acid interferes with the efficient working of the muscles and is one of the causes of fatigue. The anaerobic system is therefore only useful as short term cover.



Fuel sources change as exercise intensity increases. This chart shows that as VO_2 max increases more energy is used and more carbohydrate is needed (5)



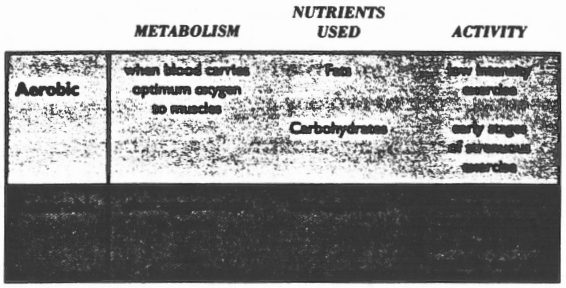
Training enables athletes to exercise longer and harder. A well-trained endurance runner can maintain a good pace without exerting himself beyond 50 or 60% VO_2 max. Thus fat stores can continue to be utilised for longer and glycogen stores are used more economically.

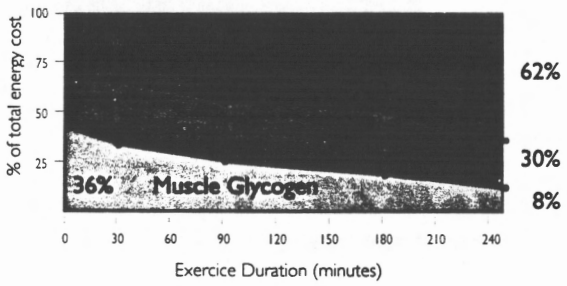
Duration of exercise is another factor in fuel use. As exercise progresses, the glycogen stores in the working muscles run down. Energy production then relies on fatty acids and although the runner can keep going, he or she will have to slow down.

The body is also able to get some energy supplies from blood glucose. Towards the end of exercise the proportion of energy supplied by blood glucose increases.

Athletes notice that muscle glycogen stores become depleted after 2-3 hours of continuous exercise at 60-80% VO_2 max, or after repeated bouts of intense sprinting, such as in games or sports.

Summary of different ways of using the body's fuel stores:



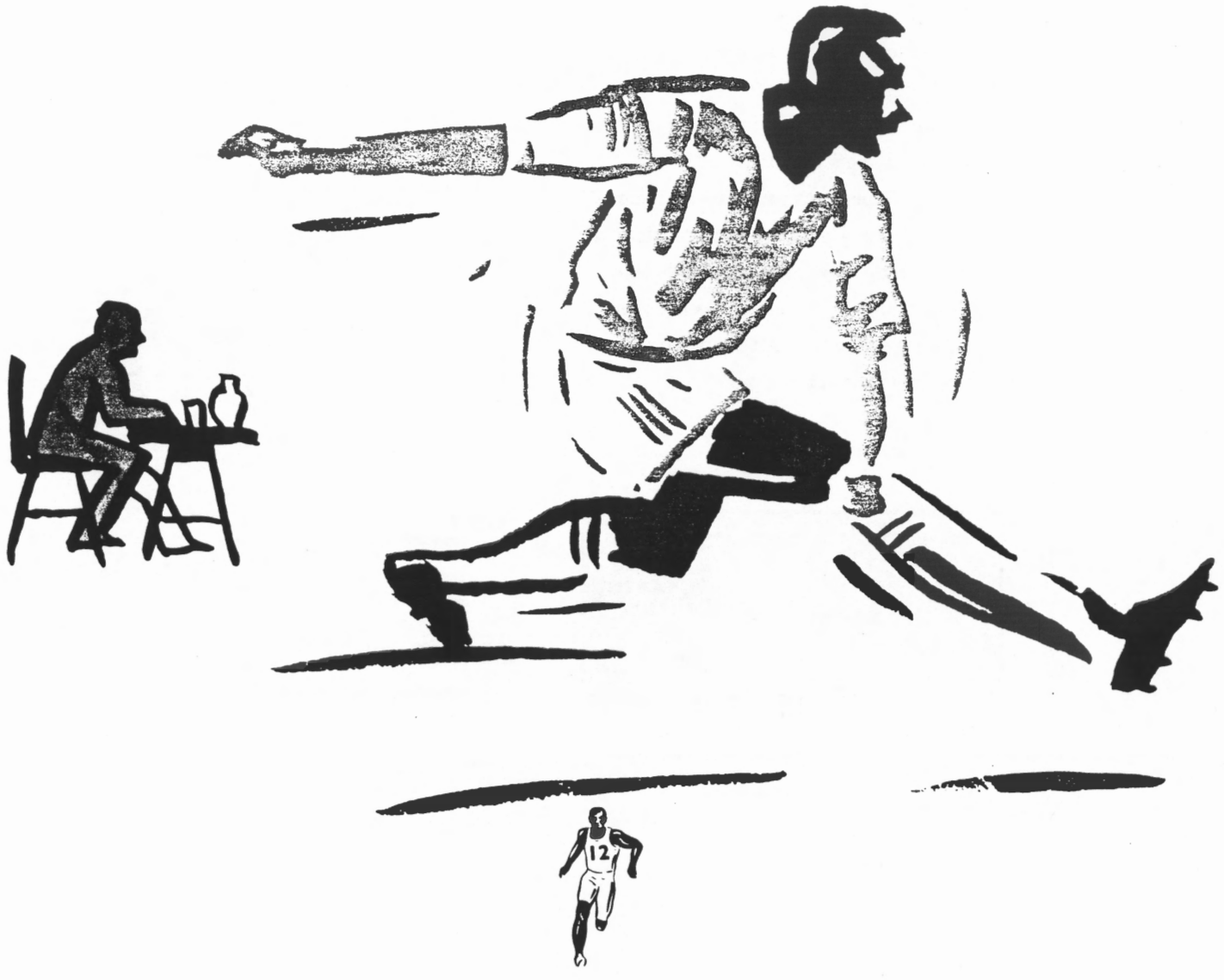


Fuel sources change over a period of time. (In this example the exercise intensity was 50% VO_2 max) (5).

How the diet can help performance

Carbohydrates

Without carbohydrate the brain has difficulty functioning. In addition, carbohydrate is a vital source of energy. A supply of muscle glycogen is essential, both to prolong aerobic metabolism and to fuel anaerobic metabolism. Sports scientists agree that increased stores of glycogen in the muscles can increase sports performance both in terms of the intensity and the duration of exercise.



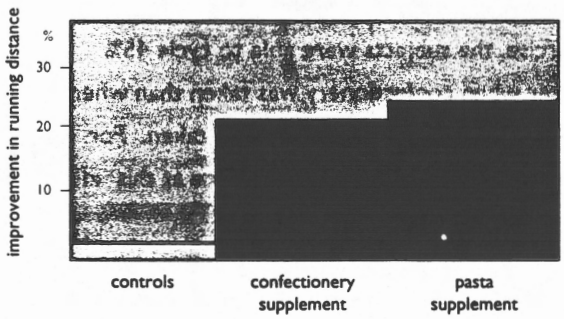
Energy intake before exercise

Obviously it is essential to store glycogen before exercise so that it is ready for use. Most athletes already recognise the benefits of stocking up on glycogen in readiness for endurance exercise. But as we have seen, glycogen is just as important for high intensity exercise. Without glycogen the muscle will be forced to rely on fat as a fuel and it will not be possible to sustain intensive exercise at optimum speed.

There is much evidence to show that those who consume carbohydrate rich diets are better able to endure exercise.

A study (6), carried out at Loughborough University, England, examined the effects of carbohydrate intake on running distances. Thirty subjects were asked to run to exhaustion at 70% VO_2 max on a treadmill. There followed a three day recovery period. During this time the subjects were on their usual diets but increased their energy intake by 70 per cent with either additional fat and protein (control group), or carbohydrate in the form of confectionery (confectionery group) or pasta (pasta group). The runners were asked to repeat the exercise in an attempt to match or improve their original distances run.

The control group were only able to increase their distances by 3%, whereas the confectionery group increased by 23% and the pasta group by 26%. Those athletes who have very high energy needs are familiar with the term «carbohydrate loading» to describe the increased intake of carbohydrate food in the run-up to competition. This can easily be achieved by gradually reducing the amount of training whilst increasing carbohydrate intake during the three to four days prior to competition. The type of carbohydrate consumed is not important; complex and simple carbohydrates (starches and sugars) are equally effective (6 and 1).



Improvement in endurance due to diet supplement

- ordinary mixed diet
- high carbohydrate supplement in the form of confectionery
- high carbohydrate supplement in the form of pasta

How the diet can help performance

Energy intake ***immediately before*** *and* ***during*** *exercise*

There is some debate about the effects of carbohydrate intake immediately before and during exercise.

Some scientists recommend that all forms of carbohydrate intake should be avoided before exercise. One study showed that a concentrated glucose solution taken within half an hour of the start of prolonged exercise reduced performance. The explanation is that ingestion of glucose causes a rise in insulin; the insulin then reduces the supply of fatty acids in the blood. Less fatty acid arrives at the muscles where it is needed, so the muscles then have to compensate by using up their limited glycogen stores. This has led to the recommendation that runners should not eat within three hours of the start of a race.

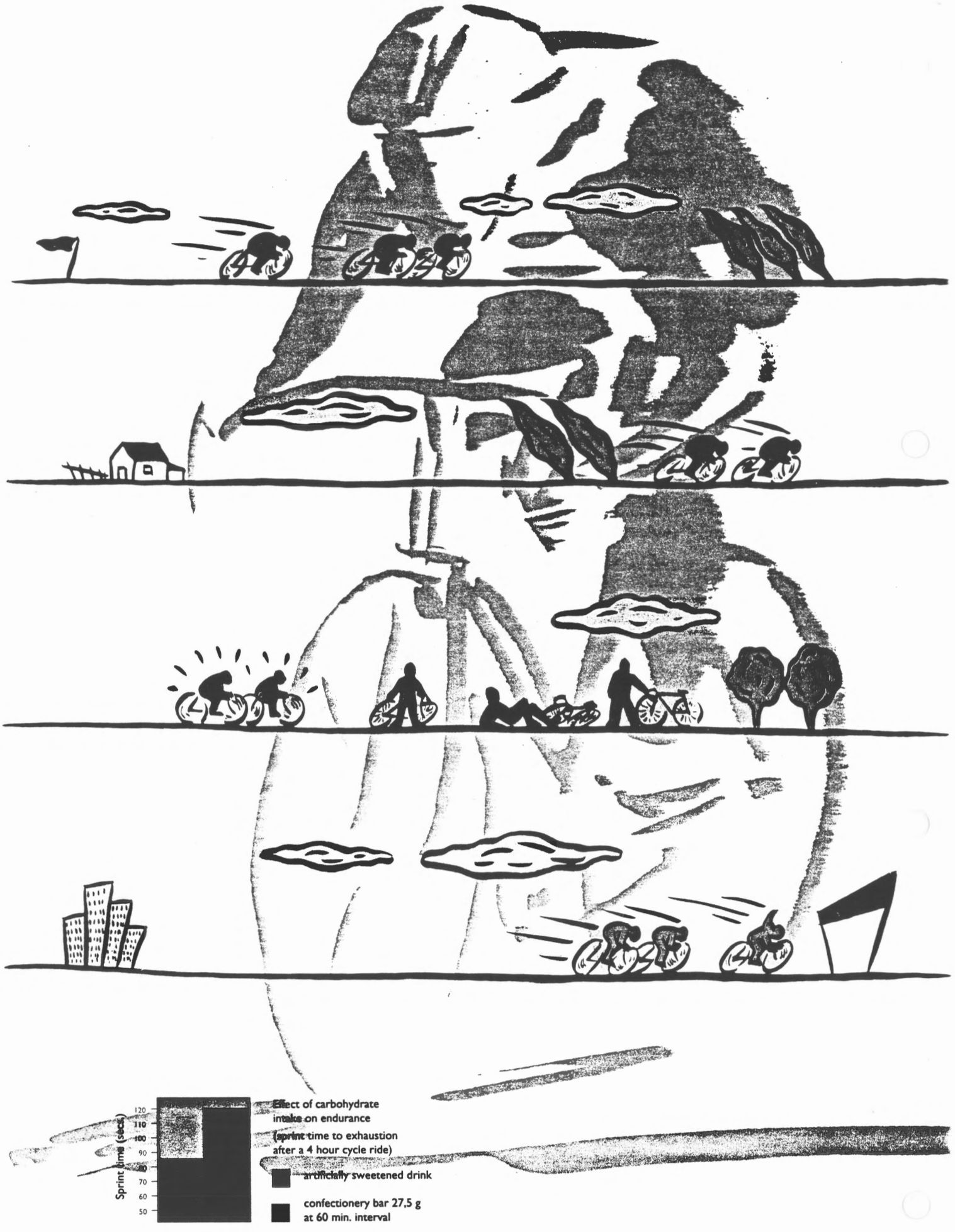
Other studies, summarised in the following paragraphs, show that carbohydrate in either solid or liquid form can be beneficial. However, heavy meals shouldn't be eaten at these times because they will lead to abdominal discomfort.

Fructose, the sugar found mainly in fruit, does not cause insulin levels to rise and so does not limit fatty acid availability. However, the disadvantage of fructose is that it restores glycogen at less than half the speed of sucrose, glucose or starch.

Whilst a glucose solution taken half an hour before exercise has been found to reduce performance, many athletes find a glucose solution taken just before exercise helps their performance. It is a good way of increasing fluid intake and topping up the body's carbohydrate stores. When glucose is taken immediately before exercise the fatty acid concentration is not affected. It is believed this is because exercise stimulates certain hormones which prevent the rise in blood insulin despite the presence of glucose.

Endurance performance is also improved when athletes drink glucose or fructose solutions throughout prolonged exercise.
One study examined the effect of providing carbohydrate drinks at half time in a game of soccer compared with providing no such drink. When the carbohydrate was taken the total distance covered increased, as did the proportion of distance covered at top speed (7).

Solid carbohydrate in the form of confectionery has been shown to improve cycling performance as well, when eaten in small amounts throughout exercise. In a study (8), carried out at Ball State University, Indiana, ten men were given a confectionery snack at hourly intervals during a four hour cycling exercise. On another occasion they repeated the exercise with an artificially sweetened drink instead of the confectionery. In a sprint ride to exhaustion at the end of the exercise, the subjects were able to cycle 45% longer when confectionery was taken than when the non nutritive control drink was taken. For many athletes improved performance at this «final sprint» stage is crucial.


Sprint time (secs.)
120
110
100
90
70
60
50
Effect of carbohydrate intake on endurance
(sprint time to exhaustion after a 4 hour cycle ride)
artificially sweetened drink
confectionery bar 27,5 g at 60 min. interval

How the diet can help performance

Energy intake after exercise

Although the need for a high carbohydrate intake is well recognised among endurance athletes, sprinters and games players often fail to appreciate that their muscle glycogen stores may be substantially depleted in training as well as in competition and must be replaced.

One study showed that 24 hours after a soccer match players had still not recovered their glycogen levels. Even world class players have been found to take in only 47% of their Calories as carbohydrate, far less than their recommended level of 60% plus (9).

The Loughborough study, referred to earlier, further emphasises the importance of carbohydrate intake for recovery (6).

Athletes who train intensively for 60-90 minutes expend as much as 1000-1400 Calories. If they wish to replace their muscle glycogen concentrations on a daily basis then they may need to increase their carbohydrate intake by at least 500g. This is well within the dietary capacity of men, but not women since this amount can equal their total energy intake. A practical rule, for both men and women, is to eat 8-9g of carbohydrate per kg body weight per day.

Glycogen is restored to the muscles at a rate of about 5% per hour. Thus it takes at least 20 hours to fully replenish stocks. During the first 2 hours after exercise glycogen is restored at a faster rate, at 7%. Nutritionists therefore recommend that athletes eat or drink carbohydrate as soon after exercise as is practical to make sure that maximum restoration is taking place.

Large carbohydrate meals don't appear to be more effective than frequent smaller meals. Eating 50-100 grams of carbohydrate every 2 hours (so that up to 500-1000 grams is reached within 20 hours) is suggested.

The type of carbohydrate appears to make little difference. Simple or complex carbohydrates, in solid or liquid forms will all be effective. For example, a recent study, by Dr. Coyle of the University of Texas (1), concluded that ingestion of 200 grams of carbohydrate in the form of rice is equally effective in promoting glycogen resynthesis during the four hours following exercise. This study compared rice and maltodextrins (several glucose molecules joined together) and found that the relative rates of glycogen were not significantly different.

Of course the availability of muscle glycogen will not guarantee the successful performance of any athlete. But if glycogen stores are sufficient, at least it will be skill and physical fitness rather than inadequate fuel supplies that will distinguish competitors.

We have seen that fat is an important provider of energy. But remember, 30-35% is the recommended maximum energy intake level. That's 33-39 grams of fat per 1000 calories. Those who need extra carbohydrates should reduce their fat intake to compensate. Athletes should concentrate on increasing their carbohydrate intake while decreasing their fat intake.

fat

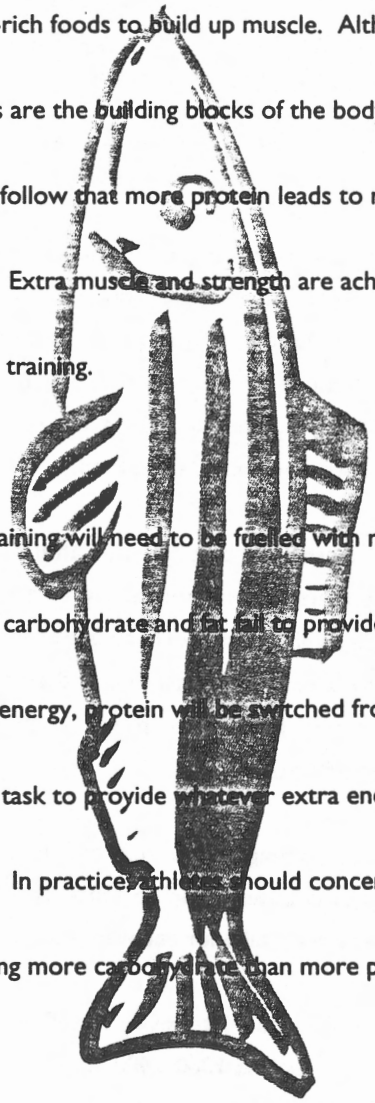
Supplements

Many athletes believe that vitamin and mineral supplements will help their performance. There is no evidence to show that intakes above the Recommended Daily Allowance are beneficial. A varied diet, with plenty of fruit and vegetables should provide all you need.

There is no good evidence to support the use of other nutritional supplements, including those commonly assumed by athletes to have ergogenic effects.

Protein

Some athletes believe it is important to eat more protein-rich foods to build up muscle. Although proteins are the building blocks of the body, it doesn't follow that more protein leads to more muscle. Extra muscle and strength are achieved through training.



Extra training will need to be fuelled with more food. If carbohydrate and fat fail to provide enough energy, protein will be switched from its building task to provide whatever extra energy is needed. In practice, athletes should concentrate on getting more carbohydrate than more protein.

There is no need to have more than 10-15% energy intake as protein. Excess protein is either used as energy, stored as fat or excreted. Excessive amounts of protein can cause health problems in athletes.

FLUID INTAKE

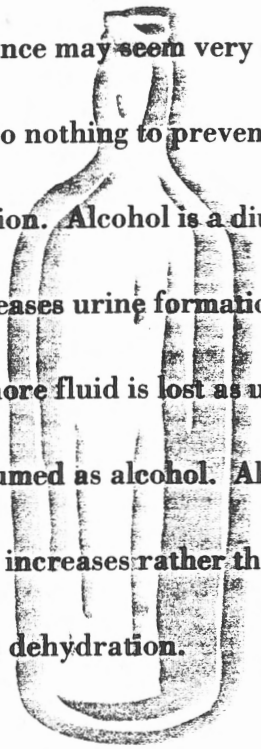
Water Alcohol

Water is essential for health. It requires at least as much attention as the intake of carbohydrate and all the other nutrients. All the body's cells contain water and this accounts for 60% of body weight. Water is needed for the body's cooling system. It also transports nutrients throughout the tissues and maintains adequate blood volume. Dehydration can cause the body to overheat. Small unreplaced fluid losses can impair performance; large unreplaced losses can cause heatstroke and even death.

Unfortunately it is a common mistake to rely on feeling thirsty as the signal to drink. But feeling thirsty is only a fail-safe device that prevents us from becoming severely dehydrated. Athletes must take care to drink before they start feeling thirsty.

Water intake must increase whenever energy expenditure increases. Where possible, drink water during exercise, as well as before and afterwards. Runners can loose over one litre of fluid per hour in ambient temperatures of 10 C. They will try to replace this by drinking 100-200 ml of fluid at 10 to 15 minute intervals. A drink of water or other dilute solution should always be taken when exercise has lasted for more than one hour.

Drinking alcohol to celebrate your performance may seem very enjoyable but will do nothing to prevent dehydration. Alcohol is a diuretic; that is, it increases urine formation so that slightly more fluid is lost as urine than was consumed as alcohol. Alcohol therefore increases rather than decreases dehydration.



Summary

All sportsmen and women can benefit from endurance training combined with a dietary regime that includes a sufficient intake of carbohydrate and water.

Filling the gaps

At the beginning of this booklet we talked about the main sources of each of the major nutrients. We have now seen how important the diet, and especially carbohydrate intake, is for sports performance.

Planning your diet is just as important as planning your training programme. And the two must work well together!

To help you, the table below sets out the amount of different foods needed to obtain 50g of carbohydrate.

500ml soft drink

75g chocolate bar

3 medium sized fruits (apple)

600ml fruit juice

1000ml skimmed milk

50g sugar

130g wholemeal bread

100g crisps/cornchips

250g baked potato

500g baked beans

150g boiled wholemeal rice

200g boiled pasta

200ml maltodextrins (25%)

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Foods, Nutrition and Sports Performance

Final Consensus Statement

Diet significantly influences athletic performance. An adequate diet, in terms of quantity and quality, before, during and after training and competition, will maximise performance. In the optimum diet for most sports, carbohydrate is likely to contribute about 60-70 % of total energy intake and protein about 12 %, with the remainder coming from fat.

Total energy intake must be raised to meet the increased energy expended during training, and maintenance of energy balance can be assessed by monitoring body weight, body composition and food intake. Where there is a need to reduce body weight this should be done gradually, and not immediately before competition.

In athletic events of high intensity and long duration (such as multiple sprint sports and endurance sports) performance is generally limited by carbohydrate availability. High carbohydrate diets (even in excess of 2/3rds of total energy) maximise carbohydrate (glycogen) stores and improve performance in such activity. A high carbohydrate diet is also necessary to sustain high intensity training on a daily basis. After each bout of exercise, the diet should contain sufficient carbohydrate to replenish the glycogen stores and to maximise subsequent performance. The requirement for sugars and starches, in both solid and liquid forms, will vary depending on the timing and nature of the physical activity.

Increased fluid intake is necessary to avoid dehydration. It may improve performance during prolonged exercise, especially when sweat loss is high. These fluids may contain some carbohydrate, the concentration of which will be dictated by both duration of exercise and climatic conditions. If exercise is of short duration and sweat losses are small, the replacement of salts can be achieved from a normal food intake after exercise.

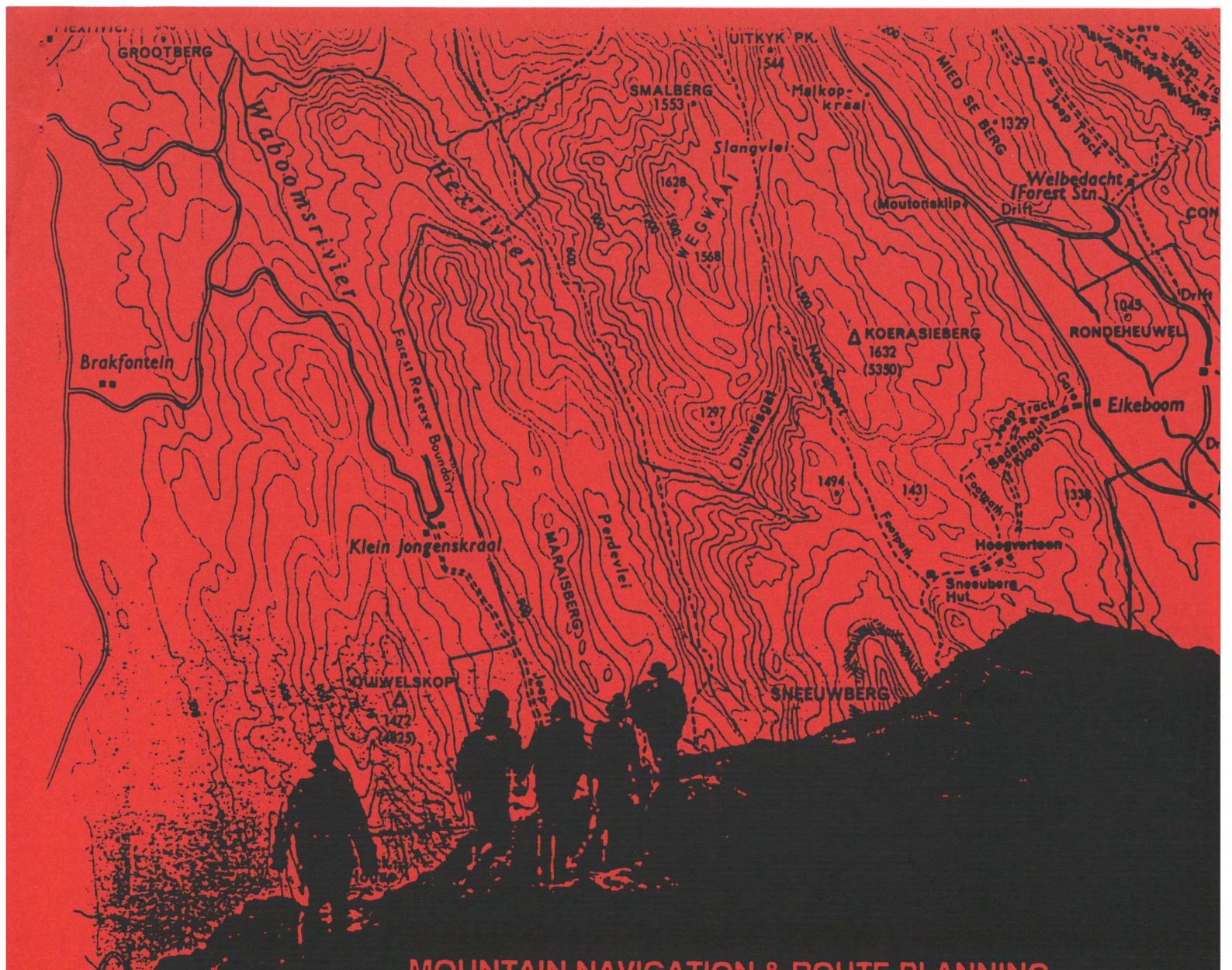
Protein requirements are higher in individuals involved in physical training programmes than in inactive people. Most athletes already consume sufficient protein, however, as a consequence of their increased energy intakes.

Fat consumption should be not greater than 30 % of total energy intake. Supplementary fat beyond this intake is not recommended for training or competition because the body is able to mobilise its large reserve of this energy store. Except where there is a need to reduce body fat content, it is important to maintain these stores by ingesting sufficient energy between periods of exercise.

Vitamin supplements are not necessary for athletes eating a diet adequate in respect of quality and quantity. Of the minerals and trace elements essential for health, particular attention should be paid to iron and calcium status in those individuals who may be at risk.

There is no good evidence to support the use of other nutritional supplements, including those commonly assumed by athletes to have ergogenic effects.

Lausanne, February 5, 1991



MOUNTAIN NAVIGATION & ROUTE PLANNING

LEVEL II & III

THE MOUNTAIN CLUB OF SOUTH AFRICA

FACILITATOR
Gabriel Athiros

MAP

A flat representation
of the Earth

or part there of.

Maps

A map is a symbolic representation, on a flat surface and according to a specified scale, of the earth or a part of the earth and the natural and artificial features on it. Different kinds of maps are used for different applications, for example road maps, geological maps, sea and airlane maps, and topographic maps. The maps most commonly used by mountaineers are topographic maps.

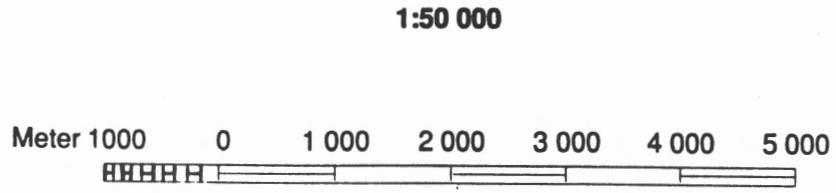
Topographic maps

Topographic maps provide an accurate representation of the area covered by the map and are usually drawn to a scale of 1:50 000. They are drawn from aerial photographs and checked by field survey. They are well detailed and use conventional map symbols that are easy to use and understand. Relief is indicated by contour lines.

Scale

The scale of a map is the ratio of the distance between two points on the map and the actual distance between these same two points on the ground. Because scale is so important, it is usually indicated in more than one place and in different ways on a map. The three most common ways of indicating the scale are:

- In words (two centimetres to one kilometre).
- As a representative fraction, or R.F. (e.g. 1:100 000).
- By a scale line.



An example of a representative fraction and a scale line

NAVIGATION BRAIN TEASER

You have Ten Minutes to un-scramble the letter group - each group of letters will make a word related to Mountains and Navigation. Have Fun!

SASOCMP Compass

RDIG arid

AMP map

GEMACNIT Magretic

EKAP peak

RONTTIGEMRIALCO Trigonometrical

ELCAS scale

VRREI River

UOTRE Route

LEOPS Poles Slope

THORN North

ELIMTTERA Altimeter

GRNIABE Bearing

TNOCORU Contour

CEBANO Beacon

RICDEONIT Direction

KEN Nek

ETIDSNAC Distance

HTAP Path

IAVOTNNIAG Navigation

Scale of the Map		How many Km or M ?
1 : 10 000	1CM =	100m
1 : 25 000	1CM =	250m
1 : 50 000	1CM =	500m
1 : 75 000	1CM =	750m
1 : 100 000	1CM =	1000m = 1km
1 : 250 000	1CM =	2500m = 2.5km

SCALE		KM or METERS
1 : 10 000	1CM =	100M
1 : 25 000	1CM =	250M
1 : 50 000	1CM =	500M
1 : 75 000	1CM =	750M
1 : 100 000	1CM =	1 KM
1 : 250 000	1CM =	2.5 KM

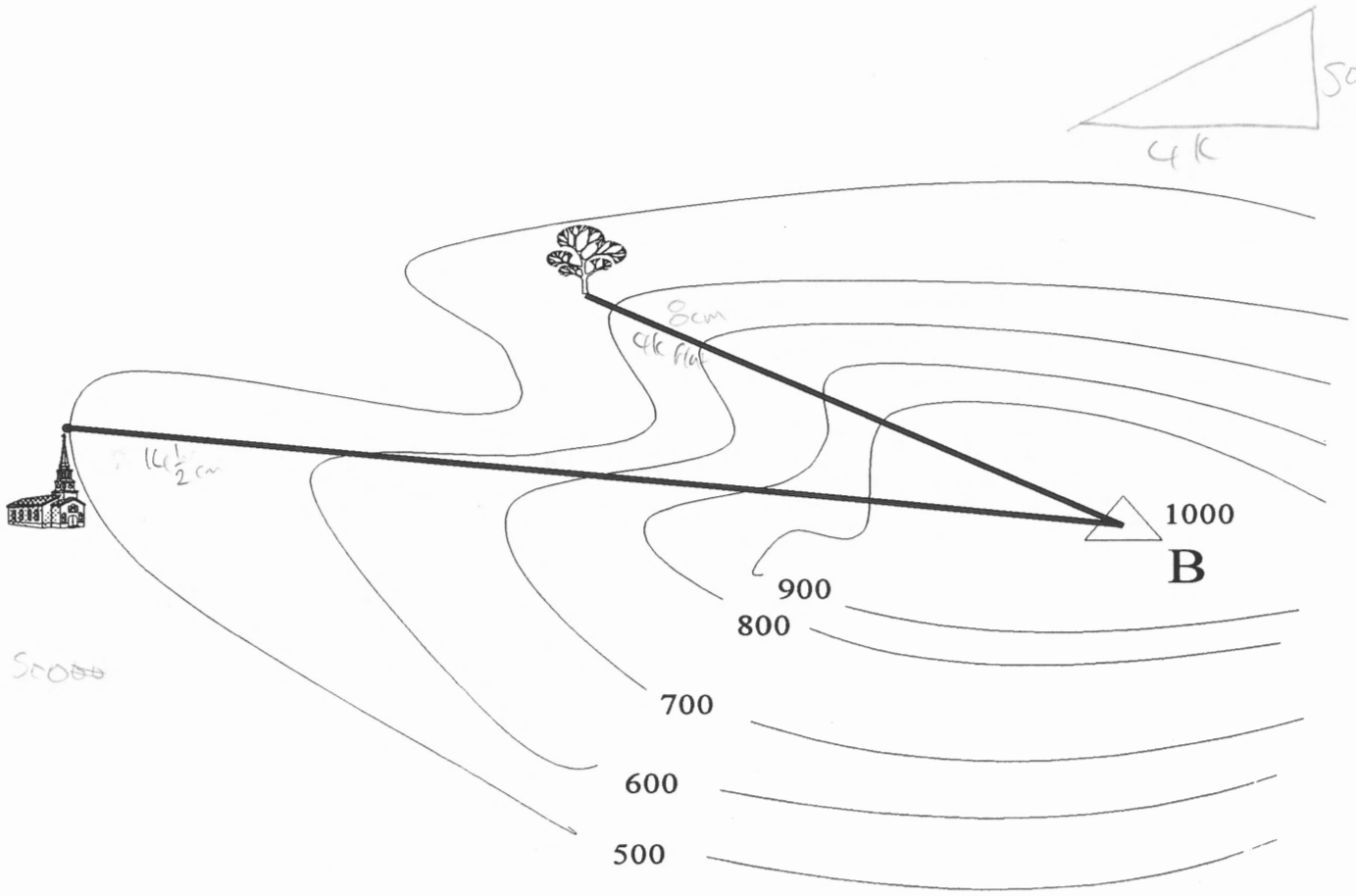
Scale of the Map		How many Km or M ?
1 : 10 000	30 CM =	3 km
1 : 25 000	12 CM =	3 km
1 : 50 000	6 CM =	3 km
1 : 75 000	20 CM =	15 km
1 : 100 000	15 CM =	15 km
1 : 250 000	6 CM =	15 km

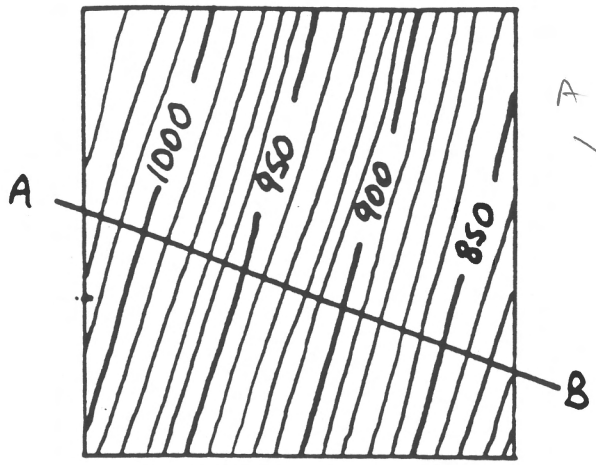
SCALE		KM or METERS
1 : 10 000	30 CM =	3 KM
1 : 25 000	12 CM =	3 KM
1 : 50 000	6 CM =	3 KM
1 : 75 000	20 CM =	15 KM
1 : 100 000	15 CM =	15 KM
1 : 250 000	6 CM =	15 KM

SOME COMMON MAP SCALES & THEIR USE

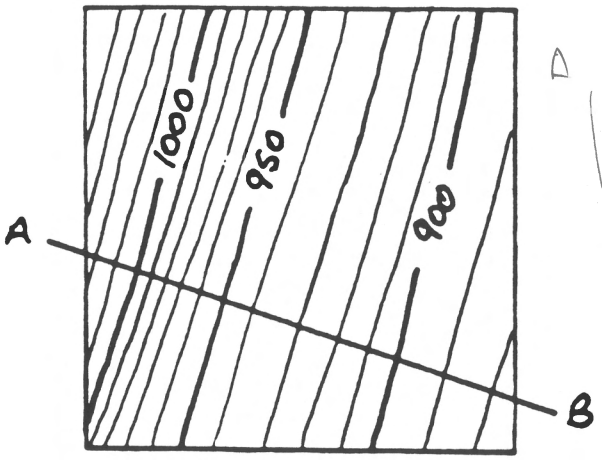
SCALE	MEANING	USE
1 : 10 000	1 CM = 100 M	Orienteering
1 : 25 000	1 CM = 250 M	Ideal for walking but you may require several maps
1 : 50 000	1 CM = 500 M	Most popular/available maps
1 : 100 000	1 CM = 1000 M	Route selection/Cycling
1 : 250 000	1 CM = 2.5 KM	Motoring
1 : 1 000 000	1 CM = 10 KM	Map of RSA

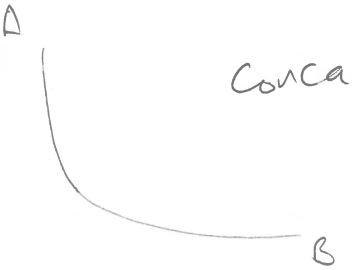
MEASURING DISTANCE



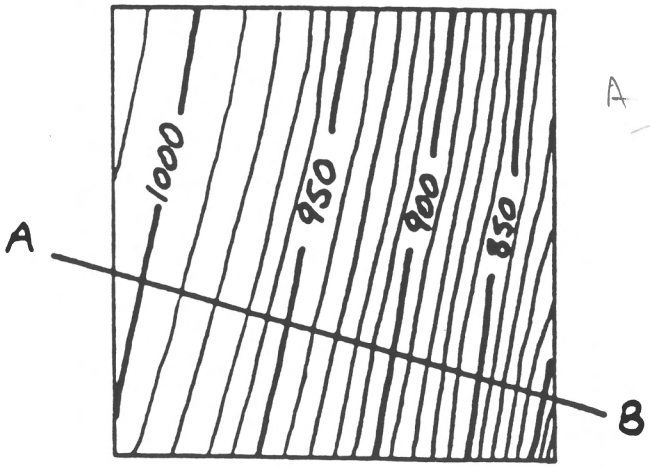


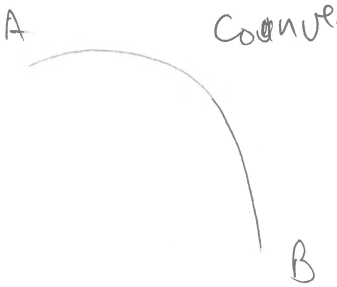
even slope



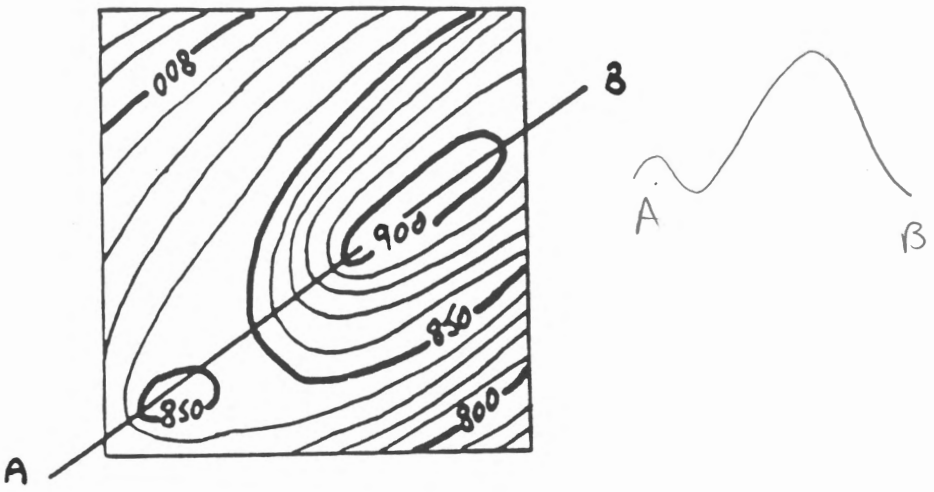


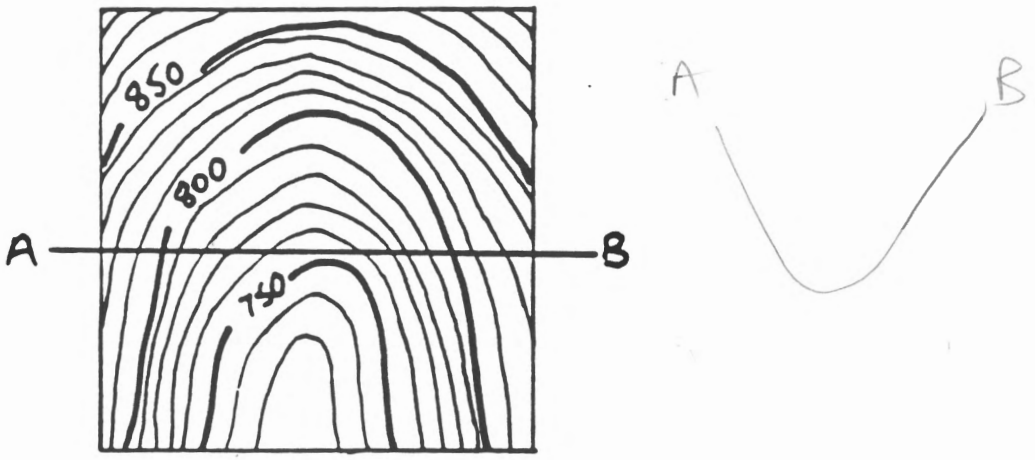
Concave

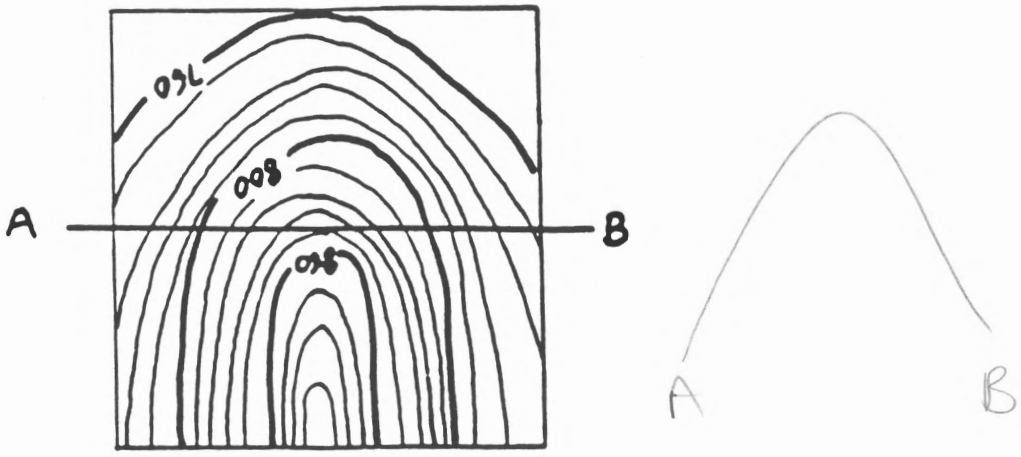


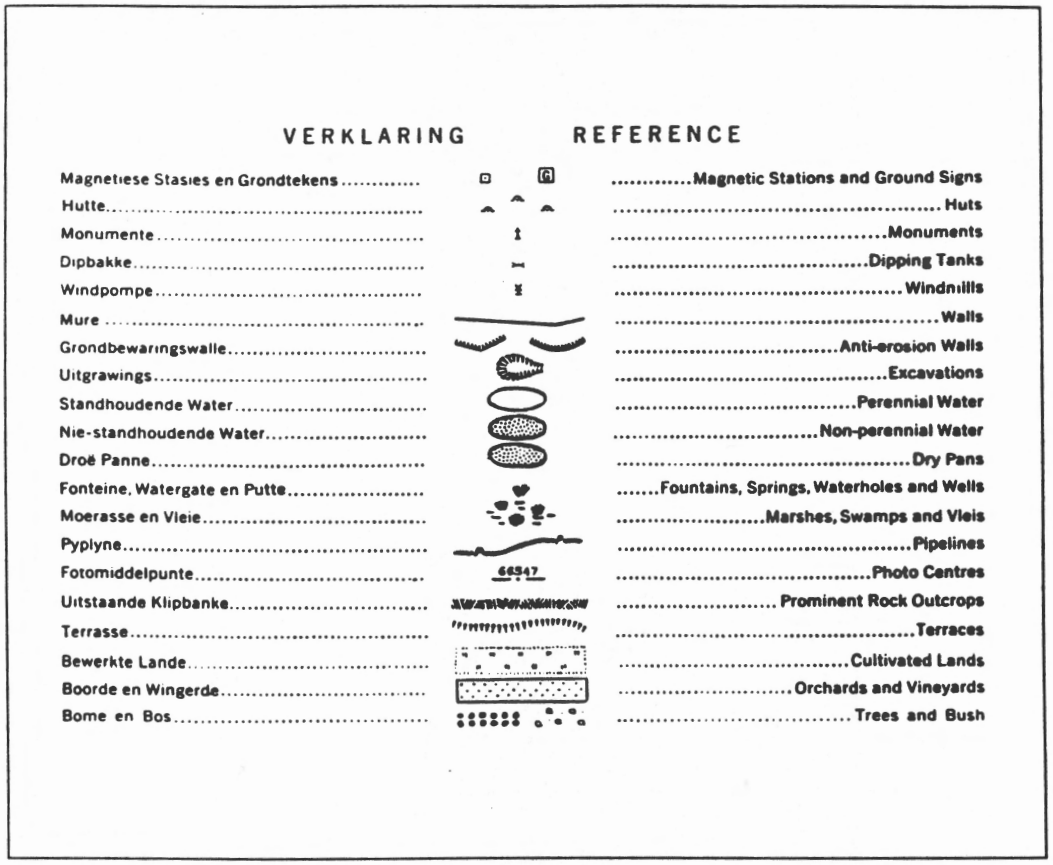


Convex


900
850
850
800
A
B
A
B


850
800
750
A
B
A
B


750
800
850
A
B
A
B



Conventional map symbols

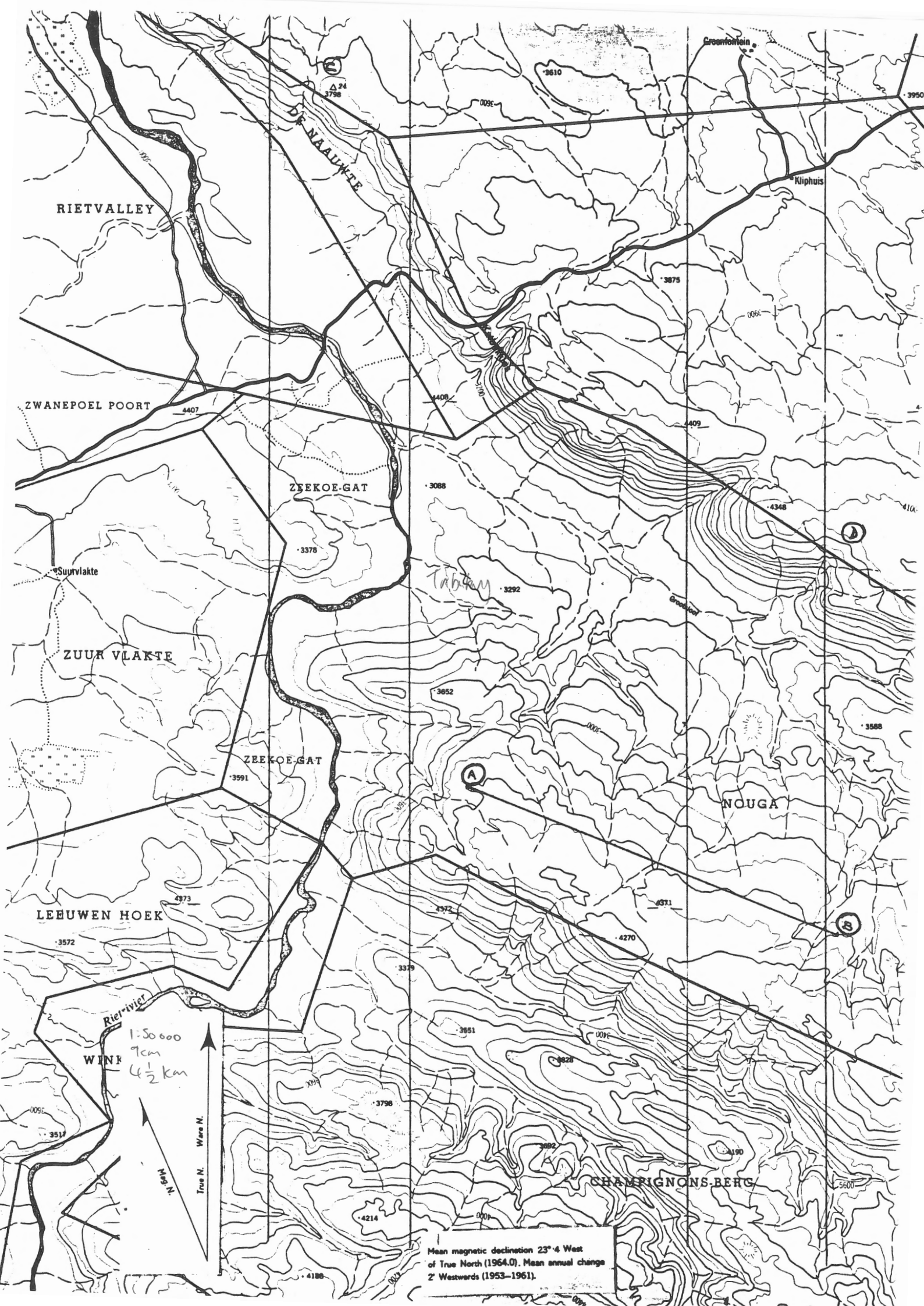
Orthophoto 3418 AB 14 Vishoek.

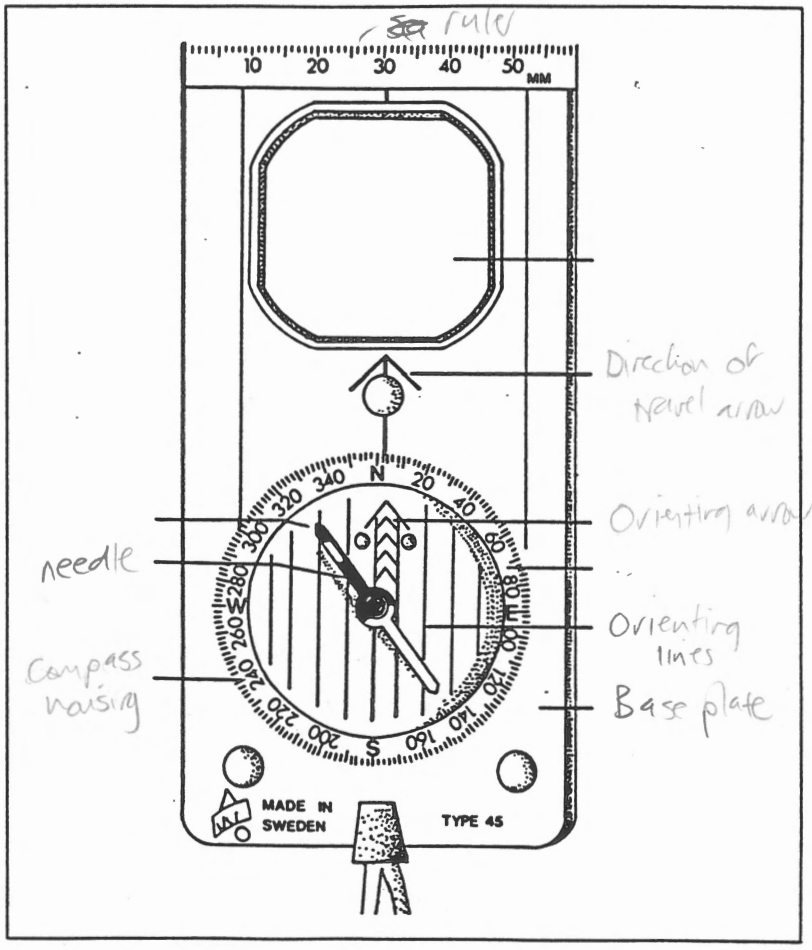
GROUP TASK

Using the map 3219CD -De Meul examine the route to the Bokkeveld Sneeukop.

The route starts at spot height 978 on the farm Rosendal. Follow a course that takes you past 1057m and to a point just north of 1867m and on to the summit.

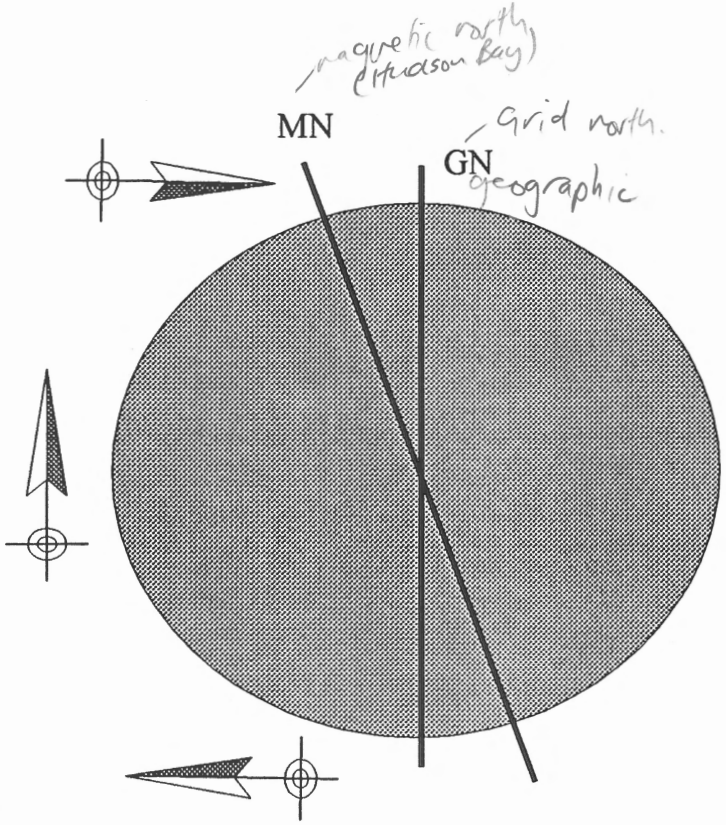
List the most important physical features you will encounter en route.

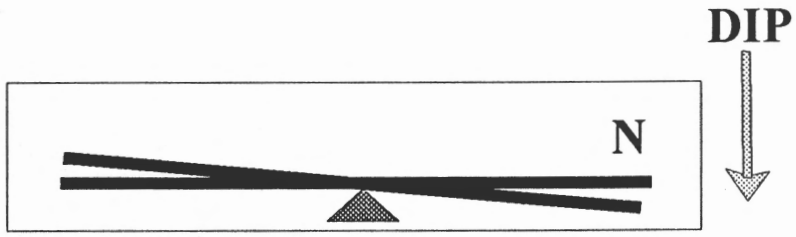

RIETVALLEY
ZWANEPOEL POORT
ZEEKOE-GAT
ZUUR VLAKTE
ZEEKOE-GAT
LEEUWEN HOEK
NOUGA
CHAMPIGNONS-BERG
DE NAAUWTE
Groenfontein
Kliphuis
Suurvlakte
Rietrivier
WINK
1:50 000
9cm
4½ km
True N.
Mean magnetic declination 23°·4 West of True North (1964.0). Mean annual change 2' Westwards (1953–1961).



Die kompas (Silva Type 4S oriënteringskompas)

MAGNETIC INCLINATION or 'DIP'

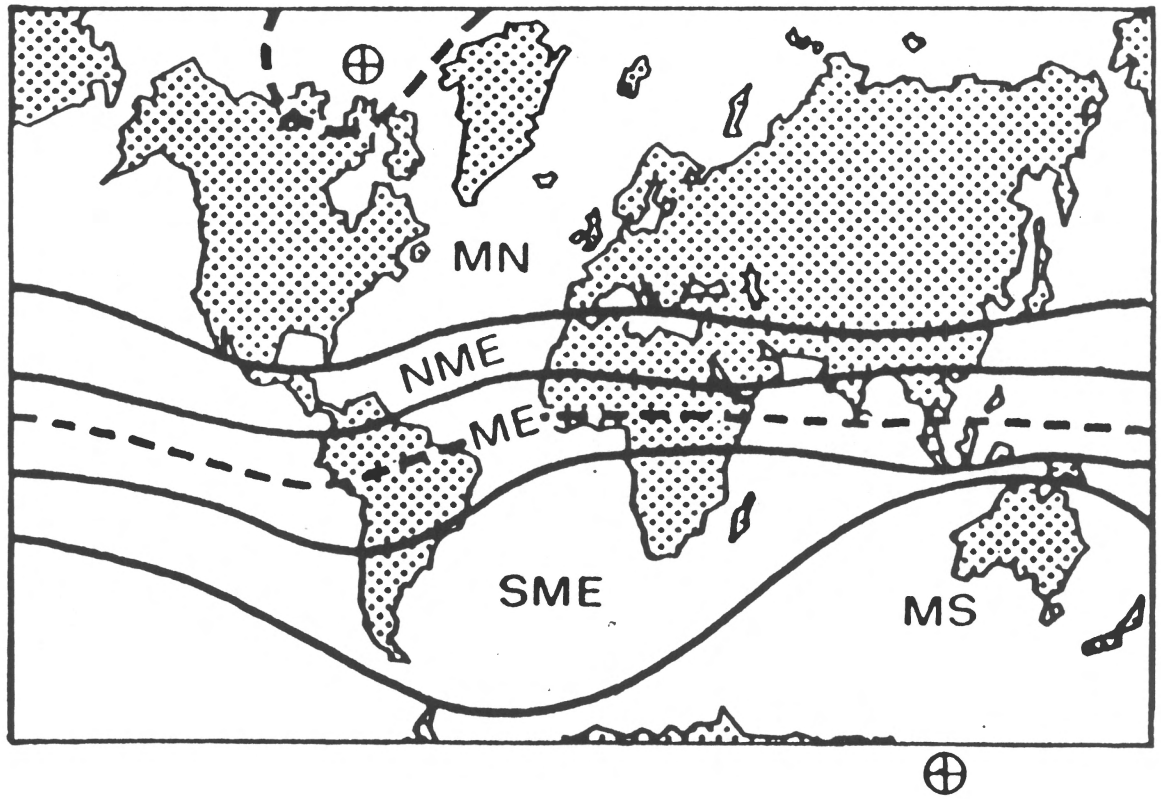




Magnetic inclination.

Inclination means that the compass card/needle has a tendency to dip more or less depending in which latitude you find yourself.
Silva compasses are balanced for five magnetic zones:

Zone:	Stands for:
MM	Magnetic North
NME	North of Magnetic Equator
ME	Magnetic Equator
SME	South of Magnetic Equator
MS	Magnetic South



the Mountains have no Gonkers, only the view towards heaven.

Conversion of bearings

Map to compass

> To convert a true (map) bearing to a compass bearing, ***add*** the magnetic declination to the true bearing.

Since the compass needle points to a point on the earth's surface some 10° west of true north, you will bypass your objective if you walk on a true (map) bearing without first adding the magnetic declination to it.

Compass to map

> To obtain the true (map) bearing, which can be drawn in on the map, ***subtract*** the magnetic declination from the compass bearing.

Two useful mnemonics for remembering when to add or subtract the magnetic declination are:
UPMA — Up from the ***m***ap = ***add*** and ***DOMS — Down*** to the ***m***ap = ***subtract***.

declination 23°W

Magnetic 97°
True Grid 74°
Add 180 254
Take map bearing

MAP to COMPASS BEARINGS

GUMA
Grid unto Magnetic - Add

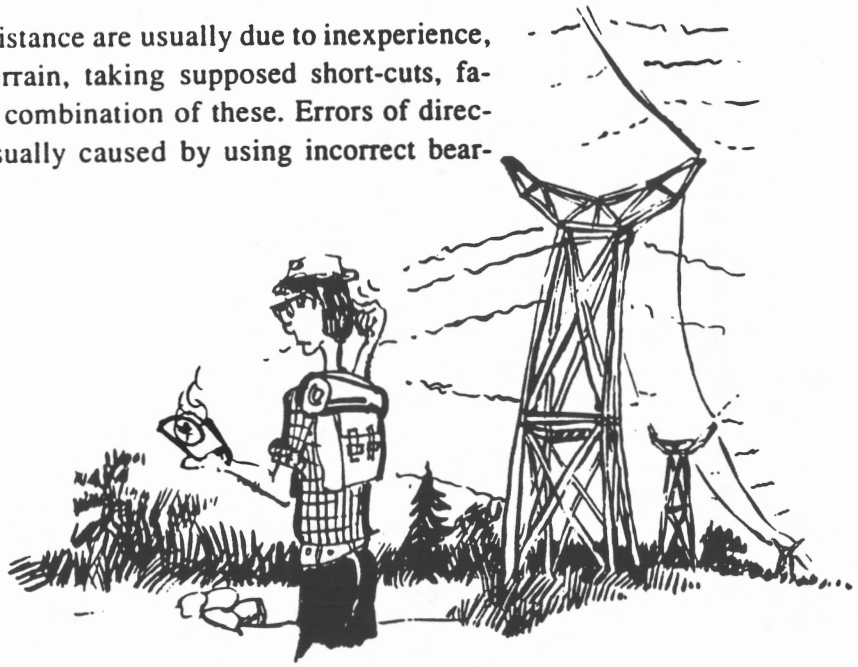
MUGS
Magnetic unto Grid - Subtract

Common navigating errors

The two most common types of navigating error are:

- Errors of distance.
- Errors of direction.

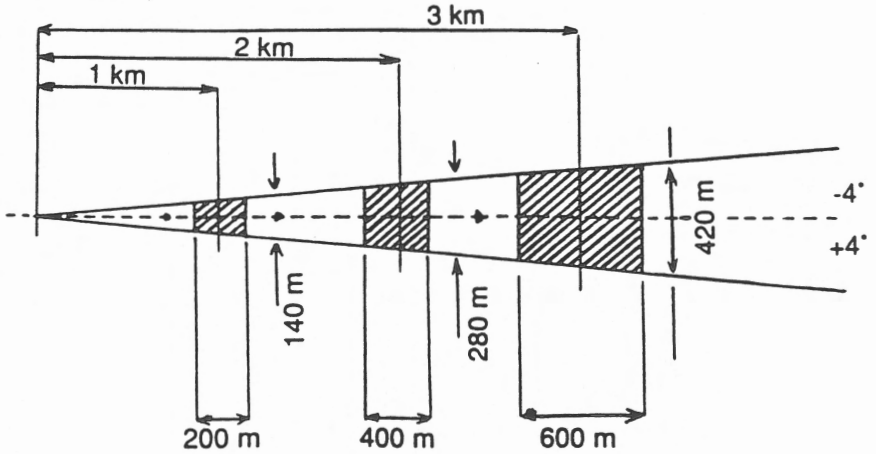
Errors of distance are usually due to inexperience, difficult terrain, taking supposed short-cuts, fatigue, or a combination of these. Errors of direction are usually caused by using incorrect bearings.



Metal objects such as electricity pylons can play havoc with compass bearings

An error of 4° over a distance of 1 km will give a possible error of 70 metres (an inexperienced person usually makes an error of this magnitude). An error of 180° results in the hiker going in exactly the opposite direction to the intended direction and therefore gives an error of 2 km after only 1 km has been walked (another mistake commonly made by beginners).

An error of 0,5° over a distance of 1 km will give an error of approximately 9 m (an experienced person with a prismatic compass usually achieves this accuracy.). An error of 20° over 1 km will give an error of approximately 365 m (if magnetic variation is not taken into account an error of approximately this magnitude is made in South Africa).



The effect of errors is compounded by distance

Naismiths Rule

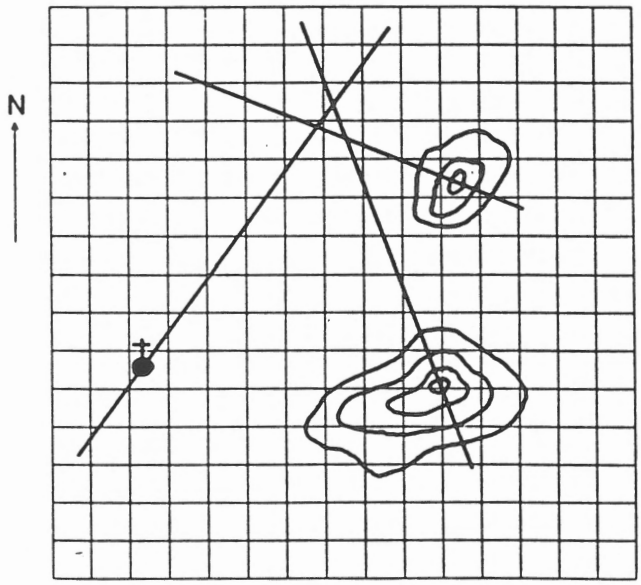
10 Mins per 100m uphill
12 Mins per kilometre horizontal
10 Mins per 300m downhill

Determining your position on a map using a compass

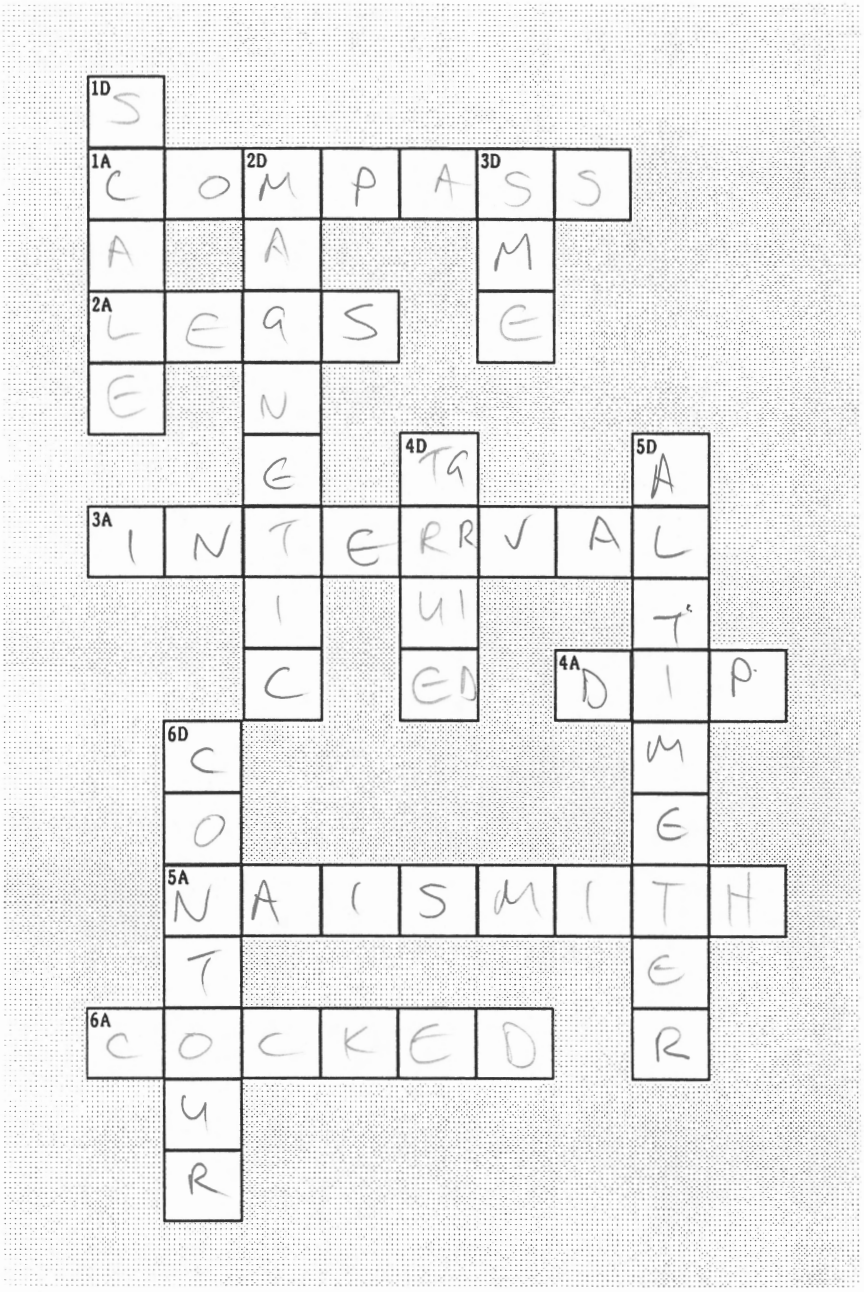
Resection is a method for locating your position on a map with precision by using a compass. It can only be used when at least two terrain features can be observed which can also be identified on the map.

To find your position on the map, using resection

1. Identify two or more landmarks on the ground and on the map.
2. Take magnetic bearings to the landmarks.
3. Subtract the magnetic declination to obtain true bearings.
4. Set the true bearing to a landmark on the compass and pencil in a line on the map on that bearing, with the line passing over the landmark. Repeat this process for each landmark with the calculated bearing.
5. The lines will intersect close to your position.



Determining your own position by resection. Less accurate map and compass work will produce a larger 'cocked hat'.

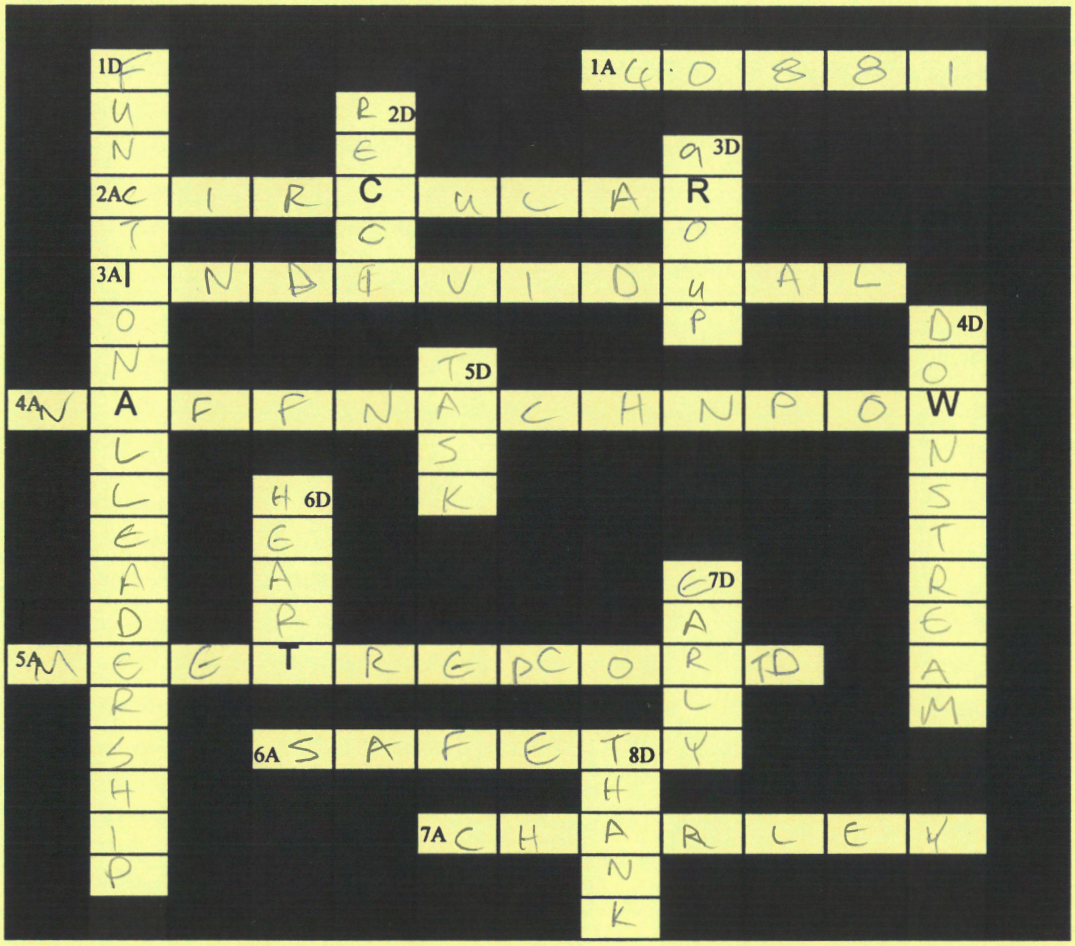


ACROSS:

1. A navigational instrument used to locate magnetic North.
2. Used for 'slogging' or segments of your route plan.
3. Gap between contour lines.
4. Inclination
5. The Highlander who advocated an allowance of 3 M.P.H. plus half an hour per 1 000ft
6. Resection (6, hat)

DOWN

1. Means that a unit on the map is equivalent to a number of units on the ground.
2. Your co compass seeks this north pole
3. The compass to be used in the RSA
4. May be described as the geographic north
5. An instrument used for determining elevation above sea level.
6. To keep at the same level



Down

1D The Leadership Model used by the MCSA (10,10)
2D Should be completed in good time for the circular notice and your meet.
3D A function of the leader is to pay attention to ___(5)___ maintenance.
4D The Upstream - ___(10)_____ should apply in camp.
5D The circular notice gives the leader an opportunity to state the__(4)__
6D When the leader 'screens' the meet applicant, the leader should check for any problematic medical conditions including___(5)___ problems.
7D The leader should arrive___(5)___ at the meeting place.
8D After the meet the leader should___(5)___ the access authority.

Across

1A The phone number for the SW Cape weather forecast.
2A A publication enabling the leader to state the task.
3A A function of leadership is consider the____(10)____ needs of the members of the party.
4A A party/group can comprise of mainly three types of people. Mcllelend identified the groups by their dominant need. (4,4,4)
5A After the meet the leader must complete this document.
6A Evaluation of risk should be biased towards___(6)___.
7A You co-convenor could double-up as the 'Tail-end-(7).

Case Study

BUFFELSEENSKOOTMOSDOODGESKIETFONTEINBERG - *Part 1*

John Rockhopper has agreed to lead a club meet on the renowned Buffelseenskootmosdoodgeskietfonteinberg (1hr from Cape Town). The intended trip should take an average party approximately 8hrs to complete.

The day of the meet is Sunday 8 July. There is a steady N.W. wind, and at 07H00 it was forecasted that the approaching cold front would reach the Cape within 7 hours. The existing cloud level on the peak is at 2500m

21 Enthusiastic adults meet John at the car park at 08h00 on the day of the meet. The party comprises of 8 prospective members, 9 Club members who regularly attend day meets, 2 experienced members who have lead club meets, John and his co-convenor. Only John and his co-convenor have previously climbed the peak.

After 3hrs walking the party eventually reaches the water spot. They are now a half an hour behind schedule. The delay is caused by a concertina effect towards the rear of the group, resulting in the leader having to make frequent stops.

At the water spot one of the tail-enders complains that she has blisters, while another explains to John that people chatting instead of concentrating on where they are walking are causing the hold up.

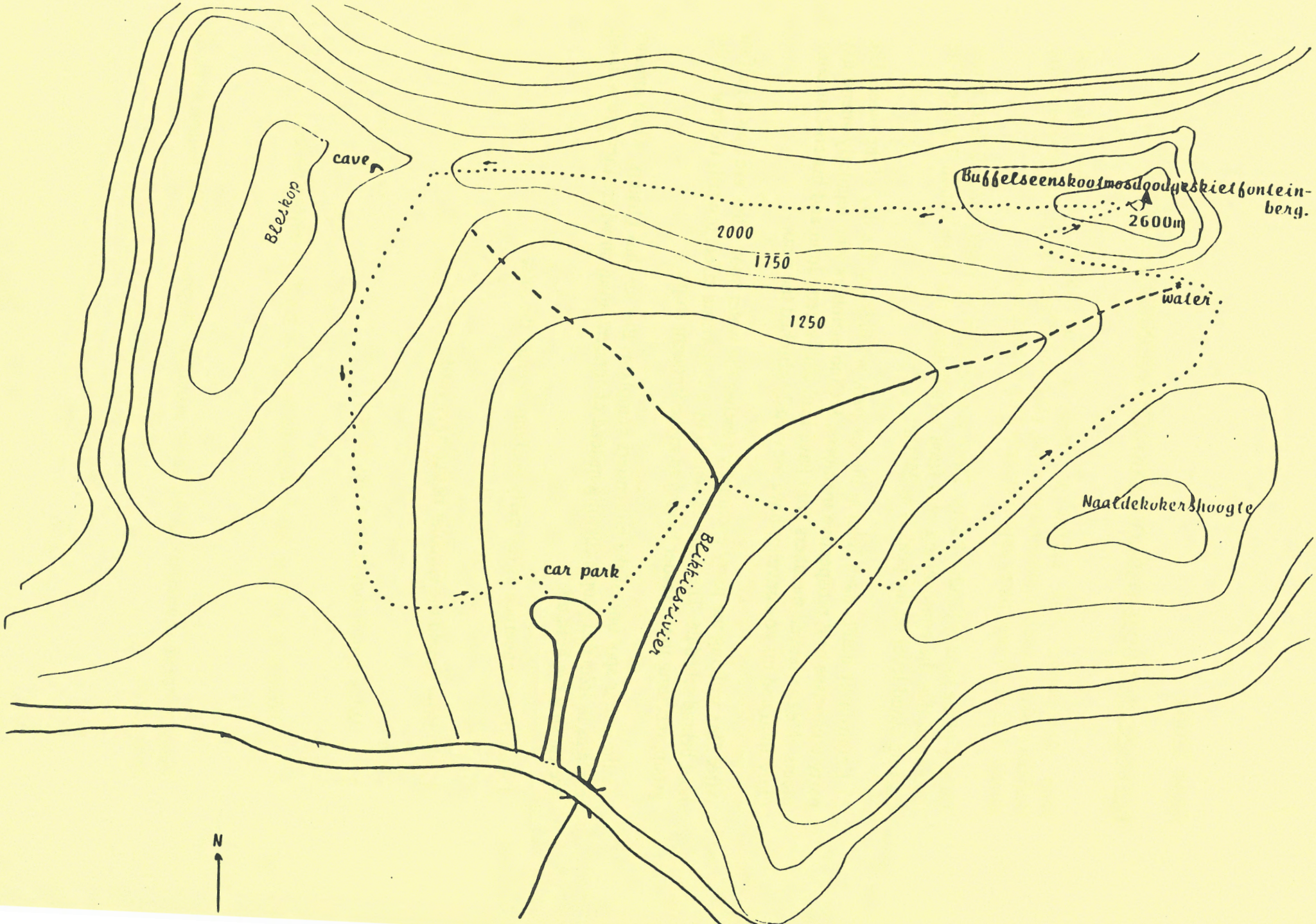
John is now concerned as the party is about to enter the mist.

1. How should the Circular notice have read.

2. What action should John take (if any).

3. What else could or should John do to ensure a safe & enjoyable trip.

Please write your answers on the paper provided. Appoint a spokes person to present your ideas.


Bleskop
cave
Buffelseenskoolmosdoodgeskietfonteinberg.
2600m
2000
1750
1250
water
Naaldekokerskloogte
car park
Bokkeraarsrivier
N

BUFFELSEENSKOOTMOSDOODGESKIETFONTEINBERG - *Part 2*

Using the Functional Leadership Model

1. List in detail the pre-meet activities

2. Draft the notice for the Circular.

3. State what you would do on the day of the meet.

4. State how you would organise the meet so that everybody felt that the trip was worthwhile.

Please write your answers on the paper provided. Appoint a spokes person to present your ideas.

Date
Route/Neuve/Peak [height]
Mountain Range
Target group (NAff/NAch/NPow)
Route description
Equipment
Time/Duration
Contact Person/details.
Transport Arrangements

State
Task.